United States Court of Appeals

for the Second Circuit

JOINT APPENDIX

76-4212

United States Court of Appeals

FOR THE SECOND CIRCUIT

NO. 76-4212

THE CONNECTICUT LIGHT AND POWER COMPANY
Petitioner

v.

FEDERAL POWER COMMISSION
Respondent

ON PETITION FOR REVIEW FROM THE
FEDERAL POWER COMMISSION

B
P/S

JOINT APPENDIX
THE CONNECTICUT LIGHT AND POWER COMPANY
AND
FEDERAL POWER COMMISSION

JAMES R. MCINTOSH
JAMES L. ACKERMAN
RENARD J. KOLASA
DAY, BERRY & HOWARD
One Constitution Plaza
Hartford, Connecticut 06103
Attorneys for Petitioner

PHILIP R. TELLEEN
FEDERAL POWER COMMISSION
Washington, D.C. 20530
Attorney for Respondent

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Mr. Emil Martin, Assistant Superintendent of Distribution of the United Illuminating Company, accompanied me to Otter Rock and identified it for me.

Use of Lake Housatonic by boats

On October 9, 1974, I contacted by telephone the head coach of the Yale crew, Mr. Anthony Johnson, who stated that for eight months of each year (February 15 through June and September through November) nearly every day the crew trains on the lake or races against crews from other universities. The Yale boathouse is located on the west bank about a half-mile above Derby Dam. For the purpose of coaching and to referee the races, six boats are currently utilized, the largest one a launch 32 feet long with a beam of 8 or 10 feet and a draft of 3 to 4 feet. There also is a boat with a length of 22 feet, a beam of 6 or 7 feet, and a draft of 2 to 3 feet. In addition there are four boats with outboard motors, two 22 feet long and two 14 feet long. These boats are in addition to the racing shells.

For these activities, a 4½ mile length of Lake Housatonic is utilized to a point about 18 miles above the mouth of the Housatonic River.

For a number of years, the 32 foot boat and the 22 foot boat with inboard motor have traveled down the Housatonic River for the Harvard regatta which is held on the Thames River in Connecticut. They leave toward the end of May and usually return in July or

Light and Power Company, Mr. Jerry Lanzolatta, Superintendent of Production, and Mr. Earl Loveland, Hydroelectric Superintendent. Some process water is taken from the Shelton Canal for the use of local industries. Substantially the entire inflow into Lake Housatonic from the Stevenson Project, however, is discharged over the ungated spillway at Derby Dam.

Q. What are the pertinent characteristics of the four power projects upstream of Derby Dam, insofar as they influence and are capable of influencing the regime of the Housatonic River?

A. The four projects belong to The Connecticut Light and Power Company. Proceeding downstream, they are the Bulls Bridge Project No. 2604, with powerhouse at Mile 51.0; the Rocky River Pumped Storage Project No. 2632, with powerhouse at Mile 44.1; the Shepaug Project No. 2576 at Mile 30.0; and the Stevenson Project No. 2646 at Mile 19.3. The description of the projects and the associated statistics are adequately presented in the License Applications. On October 1 and 2, 1974, I visited the projects, noted the name-plate ratings of the power equipment, and verified that the data in the license applications is substantially consistent with field conditions. In the visits to the projects I was accompanied by the following representatives of The Connecticut Light and Power Company:

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Mr. G. Jerry Lonsdale-Superintendent-Production

Mr. Earl Loveland -Hydroelectric Superintendent

Mr. Thomas Butwill -Engineer

The Bulls Bridge Project has a small reservoir formed by two low dams, the Horseshoe Dam and the Spooner Dam, which have ungated crests. Flashboards 3 feet high on Spooner Dam bring the pond up to the level of the Horseshoe Dam crest. A canal about 10,600 feet long and a pair of penstocks about 500 feet long bring the water to the powerhouse, which contains 6 units totaling 8400 kW. The net head developed is 105 feet, so that the discharge at maximum plant capacity is about ~~1140~~ 1250 cubic feet per second (cfs).

The capacity of the reservoir is 1800 acre-feet, and the normal drawdown is 2 feet, corresponding to a usable storage of 233 acre-feet. The drainage area at the project is 78½ square miles, so that, based on the records at the Falls Village and Gaylordsville USGS gaging stations, the average annual discharge of the river at Bulls Bridge is about 1290 cfs.

The usable storage is equivalent to ~~2830~~ 2510 cfs flowing for one hour or about equal to ~~2 1/2~~ 2.3 hours maximum discharge of the plant.

The plant is operated as run-of-river. When the inflow exceeds the plant capacity, the excess flow discharges automatically over the ungated spillway.

During the dry season (1 July through October) the stream flow will often be less than the station capacity. At such times the discharge downstream can be increased temporarily by releasing the usable storage through the turbines to yield a discharge higher than the inflow and increase slightly the navigable depths in the lowest 18.5 miles of the Housatonic River.

The Rocky River Project is a pumped storage project with a large reservoir (Candlewood Lake) formed by an earth dam across the Rocky River 952' long and 100 foot maximum height supplemented by dikes at low points in the reservoir rim.

A canal 3100 feet long (an 18-foot diameter pipe 1200 feet long) lead to a surge tank from which a penstock varying from 13 to 11 feet in diameter and about 670 feet long leads to the generating and pumping-generating units in the powerhouse on the Housatonic River.

The Housatonic River drainage area at the junction is 1027 square miles, exclusive of the Rocky River drainage area. With Rocky River, it is 1068 square miles. The average discharge of the Housatonic River including Rocky River is about 1740 cfs.

The units in the powerhouse consist of a generating unit of 24,000 kW capacity and two reversible pump turbines, each capable of generating 3500 kW. The total plant capability is 31,000 kW at maximum head and 28,000 kW at minimum head. Before 1952, the two latter units functioned only as pumps, but in 1952 their motors were rewound into motor-generators, increasing the project's capacity by 7,000 kW.

The effective [illegible] head on the units varies between a maximum of 219 feet [illegible] minimum of 190 feet. At full station load, the use per kilowatt varies from 0.0631 to 0.0783 cfs per kilowatt, or the discharge will vary between 0.0631 X 32,000 = 2020 cfs and 0.0783 X 32,000 = 2506 cfs.

The total storage of the reservoir is 173,200 acre-feet. The usable storage in a 30-foot drawdown is 145,950 acre-feet. At the maximum discharge of 2020 cfs, this usable storage would be sufficient for the plant to be operated continuously for about 830 hours, or nearly 35 days.

The Rocky River Project is a pumped-storage plant, which pumps the water from the Housatonic River, usually during periods of above-average flow of the Housatonic, and releases it for peak generation as required by electrical system load conditions.

With its large storage capacity, the Rocky River Project could have a pronounced effect on the navigable depths in the lowest 18.5 miles of the Housatonic River, particularly if it were to release the approximately 2000 cfs discharge corresponding to its maximum plant capacity for a period of several days during the low-flow season. This discharge would take place through the turbines and pump-turbines, since the spillways at Candlewood Lake are ungated and could not release any water when the reservoir surface is below the elevation of their crests.

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The Shepaug Project is a gravity concrete dam across the Housatonic River, with a crest length of 1412 feet and a maximum structural height of 147 feet. The spillway discharge is controlled by five tainter gates each 35 feet wide and 29 feet high and two sluiceway bays with openings each 35 feet wide and 24 feet high. The power plant and penstock are integral parts of the dam. The single unit of 37,200 kW capacity is fed by a penstock 25 feet in diameter and 77 feet long. The effective net head is 95 feet.

The reservoir created by the dam, Lake Lillinonah, has a total capacity of 74,650 acre-feet. However, at a normal drawdown of 3 feet, the usable capacity is 5400 acre-feet.

The drainage area is 1390 square miles, and the average annual discharge of the Housatonic River at this point is about 2260 cfs.

The Shepaug Project is a run-of-river plant, and during low-flow periods it is operated so that the inflow will be partly or fully stored over the week-end and during the week-day off-peak hours and released during the peak hours on week-days. During periods of ample flow, the plant is operated continuously.

The maximum discharge for 37,200 kW will be 0.142 x 37,200 = 5280 cfs.

The project, by its controlled releases, is in a position to exert a pronounced influence on the river's flow and on the navigable depths in the lowest 16.5 miles of the Housatonic River.

The usable storage and 4 consecutive days flow for maximum
at a turbine output of 2500 cfs, even with zero inflow. If necessary, much higher outflows can be achieved by opening the spillway gates.

The Stevenson Project -- The Stevenson Project has a gravity concrete dam across the Housatonic River, with a crest length of 1590 feet and a maximum structural height of about 124 feet. The spillway consists of an ungated ogee-type 320 feet long, provided with 3-foot high flashboards, a fishladder gate bay 26 feet long with an effective height of 8 feet to full-pool elevation, and two tainter gate bays each 35 feet long with an effective height of 23 feet to full-pool elevation.

There are five penstocks through the dam, each controlled by five-foot diameter valves operated by hand. The power plant is located on the downstream side of the dam, and penstocks about 100 feet long feed the four units. Three units are 7500 kW capacity each, and the fourth is rated at 8000 kW for a total installed capacity of 30,500 kW. The effective net head is 67.6 feet.

The reservoir created by the dam, Lake Zoar, has a total volume of 26,900 acre-feet. However, at the normal drawdown of 5 feet, the useable capacity is 5038 acre-feet.

The drainage area is 1542 square miles, and the average annual discharge of the Housatonic River at Stevenson Dam is 2536 cfs.

The Stevenson Project is a run-of-river project and during low flow periods it is operated so that the inflow will be partly or fully stored over the weekend and during weekday off-peak hours and released during the peak hours on weekdays. During periods of ample flow, the plant is operated continuously.

The maximum discharge for 28,750 KW will be 0.21 X 28,750 = 6038 cfs. (28,750 KW is the net plant capability given in the FPC Form No. 12 data supplied by the Company).

The project, by its controlled releases, is in a position to exert a pronounced influence on the river's flow and therefore on the navigable depths in the lowest 18.3 miles. The usable storage could contribute more than 10 hours of flow at the maximum turbine output of 6038 cfs, even with zero inflow. If the contributions from the Bulls Bridge, Rocky River and Shepaug projects were superadded, the period of maximum turbine discharge could be extended considerably. If necessary much higher additional discharges can be released by opening the spillway gates and the low level outlets.

Q. I hand you a copy of Exhibit DEA-1 12. Was this Exhibit prepared by you or under your supervision?

A. It was.

Q. Please explain Exhibit DEA-1 12.

A. This exhibit is a profile of the Housatonic River showing the development of the Housatonic River.

The profile map shows that the Stevenson Project discharges into Lake Housatonic, formed by Derby Dam. Substantially the entire inflow into the Lake must be discharged over the ungated spillway. To pass an inflow of 6038 cfs from the Stevenson turbines, the Derby spillway would require a head of 7.87 feet. In building up this head, it is estimated that

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AFTERNOON SESSION

1:30 p.m.

PRESIDING JUDGE: On the record, please.

Whereupon,

FREDERICK BENEDIKT

called as a witness, having been first duly sworn, was examined and testified as follows:

PRESIDING JUDGE: You are not a lawyer, sir?

THE WITNESS: That is correct.

PRESIDING JUDGE: You have conferred off the record with counsel, Mr. Telleen, Mrs. Boikess, Mr. Knickerbocker, and Mr. McIntosh, with respect to the testimony you are about to give?

THE WITNESS: I did.

PRESIDING JUDGE: Is that right?

THE WITNESS: Yes, your Honor.

PRESIDING JUDGE: You may proceed to give your testimony.

DIRECT TESTIMONY

THE WITNESS: Your Honor, I would like to qualify myself to the best of my ability as a citizen who represents other citizens. I can not claim a cap and gown in the same sense as some other experts. I do have the input of many, many dozens of citizens, including legislators, people of ecological organizations, and concerned groups -- some official some

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unofficial -- in many parts of the State.

I, myself, have put in some 8000 hours of volunteer work in the past three years on problems which derive from the Housatonic River and Lake Candlewood, in the main.

I am the Executive Secretary of Candlewood Lake Defense Associates. I was an original member of the Candlewood Lake Authority. I was its first legislative chairman. I have made many reports on certain aspects of the various problems, some on the Lake, some of statistical nature, which appear in official documents of the United States Senate.

Solely for the purpose of identification, not for any personal reason, I will state, to show I do represent the feelings of the people of New Fairfield, that I received the annual Citizenship Award, the most recent one awarded, for my work in the matter of a project involving Candlewood Lake.

PRESIDING JUDGE: Before you proceed with your testimony, I intended to make this statement for the record, which I will make now, that is, that your testimony is being received with a full reservation of the rights of Connecticut Light and Power to object to any of your testimony or to have it stricken or to take any other measures that may be necessary or appropriate.

MR. McINTOSH: May I be heard, Your Honor?

PRESIDING JUDGE: Yes.

MR. McINTOSH: I think Your Honor correctly stated the

position of the applicant, that we at least tentatively will not object to Mr. Benedikt's testimony as he gives it now, and we will reserve to the end of his testimony any objections we may have to all or parts of it, and we reserve our rights until that time.

I believe Staff Counsel and Ms. Boikess would similarly reserve whatever rights they may have to object to portions or all of Mr. Benedikt's testimony.

I would like also to state that the consultation to which you referred, which occurred during the luncheon recess, consisted principally of a discussion between Mr. Benedikt and various counsel regarding portions of his testimony which were facts, or asserted facts, and to which they believed he could competently and appropriately testify in this proceeding, as distinguished from portions of materials submitted earlier which are of argumentative nature, or other materials more appropriately contained in briefs to be filed by Mr. Benedikt at a later time.

PRESIDING JUDGE: The same reservation for all parties.

THE WITNESS: I accept all the gentlemen and Ms. Boikess in the best of faith have attempted to help me.

PRESIDING JUDGE: You may proceed.

THE WITNESS: Both the Army Corps of Engineers, in a study of water resources in the Northeast, mandated by Congress, and the Regional Authority, the Housatonic Valley Council of

Elected Officials, have designated the Housatonic River and Candlewood Lake as sources of potential potable water supply. The Regional Authoritt Study is in the second phase of a 3-phase study.

Under emergency conditions in the last drought the City of Danbury used the lake for such purpose and has appropriated funds for a standby pipeline. Other towns draw its waters for purposes other than drinking and deliver it to homes.

In 1955 there had been disastrous floods in Danbury. Following that, application was successfully made to the Federal Government for funds. The initial phase, costing over $7 million, was completed a number of years ago.

The second phase, to cost well over $11 million, I believe $11,800,000 is the correct figure, began in August 1974.

On August 30 a large ceremonial official initiation was held. It was featured by the presence of U. S. Senator Abraham Ribicoff, Representative Ronald Sarasin, many State and local dignitaries. It has provoked both news and editorial comment of magnitude. It is being conducted under the auspices of the Army Corps of Engineers.

The greatness of the Housatonic River and its numerous tributaries is so much a matter of automatic acceptance by all towns and residents and has been so since the settling of the State by arriving from Europe and from both historic and

pre-historic time by Indians, that I would say the full citizenship of this river is accepted generally by people as a matter of fact.

We refer specifically to such a matter as that the river was used to transport logs downriver for sawmills, for masts, for paper mills, for furniture factories, and that there also had been a very considerable tobacco industry along with drying sheds, at one time.

I have seen some of the latest, rather the very last, of the tobacco fields and the sheds, myself. The very fact such factories and mills existed and still exist is common knowledge.

Customary usage of rapidly flowing streams to transport logs downstream in New England and in the Northwest is a matter of common knowledge.

Andrew Scoggin River is certainly an example.

The Lower Housatonic, so celebrated by Indian, by white poets, the subject of so many books and government studies, is unique in itself.

The Chairman of the Federal Power Commission shares membership on the Water Planning and Resources Board with three Federal Secretaries of Cabinet rank -- Interior, Army, and I think Health, Education and Welfare. Secretary Rogers C. B. Morton, of Interior, himself, in 1972 ordered intervention before the Federal Power Commission for determinations of CP recreation proposals for potential usage of Lake Candlewood

Rocky River, as a source of water.

I might add that particular intervention, although not signed by the Secretary, appeared on the stationery of his own private office.

As stated, the Army Corps also conducted a mandated Water Survey and concluded that such a potential exists. There is one still going on. It had started under a Mr. Gene Woock of the Army Corps, but he has been changed; I don't know the present status of development of the study except that I understand it is to continue.

Federal money has been spent on the salt water estuary of the river, which extends upstream for about 13 miles. This estuary is, of course, the territorial seas of the United States where the river enters Long Island Sound. It is well known that conditions of this confluence have long been of vital concern to the Federal Government, the State of Connecticut, and the neighboring communities of New York State.

In response to a specific situation concerning matters on the Candlewood Lake part of the Rocky River project, Region 1, United States Environmental Protection Agency, speaking through its director of Environmental Impact, Mr. Wallace E. Stickney, specifically said complete impact study would be required in order to assure plant at New Milford, and that would involve agencies besides EPA. This was, I believe, in, oh, about late May or -- in May, anyway, 1974.

Both parts of the Housatonic itself, and one of its tributaries, the Shepaug River, are the subject of bills in Congress under the Wild and Scenic Rivers Act, sponsored by both Senators and both Representatives of Western Connecticut, bi-partisan.

The Housatonic River is a major vital factor in the lives and thinking of the entire populace along its banks and its various watersheds.

I might say, it is a very, very frequent and almost dominating part of civic affairs in the region.

Scarcely a soul thought of the CL&P Recreation Plan, Exhibit R, Revised Exhibit S, of December 1970 as other than a renewal of license; it came after forty years, about. It was universally thought that it was a renewal after forty years, as provided. The fact of the word "application" on the document was thought of in no other way than one would think of as filling out a form for a new auto license or other renewal where the word "application" on the license so often appears. Nobody I know of thought of the matter as original.

The Housatonic is so integral to all thought that it was taken as a matter of course that it would have fallen under mandated procedures.

This confusion extended to ourselves; certain of our various submissions of material prior to May 1974 dealt with matters of license as renewal. We found ourselves inadvertently

requesting certain things of the Commission in regard to CLP's license, exactly contrary to intent.

Mr. Kenneth Plumb very kindly corrected us at a vital point.

Our State Representative, our First Selectman, and others, and I as an original member, as stated, of the Lake Authority, et cetera, had for years thought of it as renewal, and speakers brought in as experts seemed to think so too.

The result of the confusion has been to cause ambivalent feelings on the part of various officials in the following manner, concerning Federal Power Commission jurisdiction.

Exhibit R, Revised Exhibit S, was an extremely unwise, disastrous document. As aftermath, especially purchase of the site proposed on private land for a huge park by CLP, by a speculator allied with highly destructive joint ventures, resulted in regional trauma.

At all points the impression created was that Federal Power Commission was demanding more and more highly destructive additions to already overcrowded fragile lake capacity as the price of renewing a license. In this manner, FPC was blamed for the destructive plan, and additionally blamed for placing demands on towns for things it has no authority under law to require. To this day the confusion exists in a number of quarters, official and private.

I speak in this brief merely of cause and effect. We shall

not assess motivation here, for which interpretation might be subjective. We feel the Federal Power Commission, itself, contributed to the situation. No explanatory word at all was issued to clarify things by the Federal Power Commission in 1971 and 1972. It existed until July 26, 1972, so far as I am concerned.

The activities of CLP compounded the matter of jurisdiction. Having entered challenges in 1966 to Federal Power Commission jurisdiction of these four dams, on the ground of navigability of all, and date of construction of at least two, possibly three, CLP did comply with the Federal Power Commission demand to furnish recreation proposals as part of application in subsequent years on three occasions -- it complied on three occasions, two of which were recreational, in subsequent years. And it did not enter a challenge legally forthwith.

Candlewood Lake Defense Associates itself did not become aware of the four dams, as stated, until a late date.

Even on the basis of Rocky River alone, we regarded the effect as so serious we did send quite a bit of material to down-river towns, to the planning division of the State Department of Environmental Protection and to the Lake Lillinonah and Zoar Lake Authorities.

The Department of Environmental Protection of Connecticut has been involved in a lawsuit with various groups. We are not

a party. However, when an impact study was requested of the effect upon the Still River, of the subject of the suit, a highway, the attorney of the Department of Environment stated no impact study is required, on the grounds that the Still River is not navigable. Yet, it is known that agencies of the State on other occasions, probably when application for funds was made, or something like that, have designated parts of the Still River as navigable.

This type of fragmentation threatens Newtown, New Fairfield, Brookfield and, I would say, other towns also.

Only two items of consideration under the Federal Power Act as written seem admissible -- navigability and whether the date 1935 has any material meaning.

Actually, as a separate entity today we do not have a Rocky River. It is completely integral except for that penstock area with Lake Candlewood as the new Milford arm of the Lake. It is unidentifiable except on charts, and it is in no way part of consciousness of Lake users as an entity. The vast majority of the present citizens are oblivious to its ever having existed.

Yet again, it is the fact that prior to impounding Lake Candlewood as a storage basin there did exist this tributary of the Great River, the one-time name of the Housatonic, among a number, that made this Rocky River Project possible.

Fragmentation takes still other forms. The Department

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of Environmental Protection does not recognize Lake Lillinonah or Lake Zoar as impoundments. Dumpings of huge masses of phosphate-laden waters are being proposed that would clash head on with responsibilities of the Federal Power Commission mandated by Congerss with respect to maintenance of quality, recreational facilities, as well as the quality of water as it flows downstream.

A proposal for introducing a deadly leachate into a tributary of the Housatonic River is now being made.

In any case, the Federal Power Commission has long established jurisdiction over the Snake River, I believe the Colorado, I believe the Niagara, and possibly the Missouri River, under conditions which physically parallel those of the Housatonic. Yet none of those can match the lore, the vast amount of research, literature, and cultural position in American history or in establishment of the nation itself and, I would add, of the towns also along the Housatonic River or along what is now Lake Candlewood.

PRESIDING JUDGE: Mr. Benedikt has given the reporter several pages of previously submitted material which are to be copied into the record. The pages have been indicated and marked for appropriate copying.

(The statement of the witness continued as follows:)

Western.

THE HOUSATONIC--INDIAN LIFE--HISTORIC—PREHISTORIC

So great has been the hold and fascination of the beautiful, intensely useful artery of Western New England, that both in pre-historic and historic time,-long before Viking, Spaniard, or Englishman was known even to have a boat, the Housatonic was the life-center of man as he existed in New England.

The areas of research into Indian life are now so huge that organizations and scholars center themselves into single, separate divisions. Our efforts to secure data for this brief at once encountered this phenomenon.

THE SHEPAUG VALLEY ARCHAEOLOGICAL SOCIETY has just broken ground for the American Indian Institute. Among facts in A R T I F A C T S, its publication, for September, 1974, we find:

"THE PREHISTORY OF THE INDIANS IN WESTERN CONNECTICUT, PART I., 9000 B.C. to 1000 B.C., is a major document, by President EDMUND K. SWIGART, of Washington, Conn. It is being published this Fall. The Bulletin reveals the earliest known Indians lived in a 200 sq. mi. area in Western Conn., in the Housatonic River region, at the time of glacier retreat. Speaking of a particularly rare type of projectile flint, Mr. Swigart reports: "Thirty-five of 45 recovered at five sites were at one place, 'ON ONE SITE , HIGH TERRACE, ON THE HOUSATONIC RIVER, OVERLOOKING GREAT FALLS, NEW MILFORD.This would probably indicate a major occupation at the site." The flints were mainly from New York State.

Mr.

September 1, 1974, the Danbury News-Times announced an amazing discovery: Dr. Swigart reported 4000 yr. old drawings on stone of BOATS WITH KEELS borne in the right hands of buried Indians. Yet boats with keels supposedly were not invented, and were not recorded, until after, long after, these Indians had died.

Mr. Sid Anderson, Director of BENEATH-THE-SURFACE, A GROUP DEVOTED TO MARINE BIOLOGY, TRAVEL, AND STUDY TOURS, in a letter referring us to Dr. Swigart, also informed us: "If it is simply a matter of whether people used the River for boats, then there is no question that it was used from Canoe Meadows in Pittsfield on down, from early Indian days.

The Appalachian Trail repeatedly crosses the river from side to side, and parallels it at other points in Connecticut. Dr. Swigart mentions it as the site of abundant fishing, hunting, provisioning, along the Housatonic. Apparently it was a major stocking up point for travel in both directions of the Trail.

Further downriver, at GOODYEAR ISLAND, Sandy Hook, there is known to have been an Indian Trading Post in early Colonial times. At the same site, Charles Goodyear founded the American Rubber industry, which still fabricates firehose in Naugatuck. Though its existence is certain, we have

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been unable to find whether this post existed prior to arrival of the colonists, or indeed just what was traded. The existence is definite. It is at this same site that in 1730, rather late in the period, long after colonists from Stratford in 1673 had founded Woodbury, that Peter Hubbell obtained a ferry franchise from the authorities between Newtown and Southbury.

INDIAN RECOGNITION OF NAVIGABILITY

From the foregoing, it is clear that from prehistoric times, Indians have used the river as a waterway, and a center of communication. Keeled boats bespeak intent to travel downstream and cross fast, turbulent waters. At Canoe Meadows, great masses of canoes from all over congregated, from different tribes. There is not much literature, other than the fact. The Hoosic River is so close in the north, making possible lengthy travel from New York State and the Hudson River, it appears the yearly event may have been multi-purpose: trade, negotiation, and perhaps an "Indian Olympic Games" with canoes on the many rapids.

The constant intertwining of the Appalachian Trail along and cross river for many miles in Connecticut is significant. To this day, a tiny reservation of the Skagticoke tribe remains in Kent, once a large Indian, and Colonial center of mining. Directly across from the home of this writer, across Squantz Pond, facing Pootatuck State Forest, numbers of Indians left the Appalachian Trail just a few miles north, to winter. Rapid and turbulent streams coursing down the high points of the area into Squantz Pond result in thin ice that made excellent fishing possible in winter.

DESCRIPTION OF THE HOUSATONIC

This river system has three divisions of its headwaters. The largest is the center one, flowing south of and from Lake Pontusuc, just north of Pittsfield. Pontusuc itself has a stem stream to its north that barely misses confluence with the HOOSIC. It is believed to have been once in junction, and hence the GREAT RIVER flowed both west and then south in the Hudson, and its present branch its course, south and southeasterly, into the territorial seas at Straford, across from Milford. (In 1648, Moses Wheeler obtained his ferry franchise, Stratford to Milford.)

Thus, New Englands Great River has the major industrial system of Pittsfield (General Electric) at its source, and the still greater complex of Bridgeport, Stratford, Milford at its terminus in Long Island Sound. In placing Bridgeport as part of this complex, it is necessary to explain a bit. The river is wide and flows between Stratford and Milford. However, physically, without separation, large parts of Straford and Bridgeport merely continue each other across the street, especially in the industrial area. In fact, in Colonial Times, in the Boston Post Road area, treaties placed Indians in Bridgeport and settlers of the 1600s in Stratford. But there was mounting trouble. Cattle and swine belonging to the Puritans strayed into the Indian's Bridgeport planting area and cornfields; Indians reciprocated by straying into Puritan crop areas and feated feasted upon both vegetable and animal.

Benedikt - Direct 588

COMMERCE, NAVIGABILITY

Since CLP recognizes the 13 mile estuary of the river as navigable, other than to say it is a major center of electronic, machine, and defense companies, little more need be said.

The concession of navigability is made as far north as Shelton and Derby, the point where the Naugatuck joins. It is north of this that CLP makes challenge, even though the challenge in itself may be without merit, since the Federal Power Commission under the Power Act would take cognizance of intermittent rapids, and still class it as navigable.

We prefer to deal once ~~y~~ again on a factual basis rather a legalistic interpretation, in support of our contention the Housatonic's navigability is part of life and Valley culture. We point to the large shipbuilding industry at SHELTON-DERBY, especially Derby. The obvious thing is that large timber was required, which floated down from upstream, to the site where it could be intercepted before going further down as a marine hazard, and yet where the water was deep enough to send a ship downstream on reversing tide.

Mr. Sid Anderson, of BENEATH THE SURFACE, quoted a passage from Chard Power Smith's 514 page, indigenous work--HOUSATONIC-PURITAN RIVER (also a source of historic data in this brief). In Colonial Days the channel was reported as 5½-6 feet deep, but 13 feet on incoming tide, which was used to launch upstream traffic. The facts of the shipbuilding industry, very extensive for the West Indian trade, seem clear. Logs floated down, and ships went down the ways, both at Derby-Shelton.

On the north end of the river in the Massachusetts area, it is known that textile and textile dye works existed. There were of course numerous sawmills. At Lee, Mass., furniture works. We will not elaborate, because the FPC staff in previously received material shows it will deal extensively.

ORIGIN OF THE NAME--TRIBUTARIES

Both Indian and Colonial names attest the Housatonic as a major system, fully entitled to the first-class citizenship and federal recognition on merit. The very names of the river attest to it.

SOME INDIANS CALLED IT THE POOTATUCK. The word means BEYOND THE GREAT FALLS. In their own way, the Indians pre-predicted that some day there would be more than 27 power dams by 1940--11 north of Pittsfield, 11 south--large numbers of sawmills taking direct power, plus paper mills, etc. The word also implies the Indians had been "beyond the falls."

HOUSATONIC, one of many spellings, means THE COUNTRY BEYOND THE MOUNTAINS. The Indians regonized geographically what we now recognize legally, the natural divisions between Connecticut and Mass.--a state line--A FEDERAL JURISDICTIONAL MATTER IN COURT CASES---an interstate river system.

Moreover, the Housatonic is the spine of a multi-tributary system, in which a number of true tributaries, like Rocky River, have also tributaries. To list a few: The Naugatuck, Shepaug, Pomperaug, Ten Mile, Still, Rocky.

COMMERCE IN THE ROCKY RIVER AREA...MARINE LIFE

Although we believe it is not the intent of the Federal Power Act, in presentations of CLP, there were several instances where effort to fragment the economic aspects of river life into small units, for its case.

Hence, it should be pointed out that today, directly across from the Rocky River Plant, a hundred or so yards, is the large, SWISS OWNED Nestle plant. Here Maggi products, sold countrywide, plus instant tea and instant coffee are produced, and the product line was lately expanded. Downstream, also in New Milford, huge expansion of the Kimberly Clark paper plant has just been completed and a line of sanitary paper is made, and river water is used in processing. In New Milford, an old road leading to the river is called PAPERMILL ROAD, which of course speaks of a long history.

CLP mentioned quarrying of limestone or marble as about the only identifiable commerce on the upper reaches of the river. However, in the 18th Century, Kent iron mines, huge numbers of charcoal kilns, and limestone fed a flourishing iron industry, that only went out during the second decade of the 19th century, as more modern methods came about. Also, marble was not just a source of building blocks. Marble chips were an important source of carbonic gas in food and chemical industries.

The methods of older commerce, from what we are able to learn, were not averse to "portage"--intermittent use of waterways. In that way, it is reasonable to believe. the heavy products of CLP's mention would be mined, transported partly by wagon to a usable water transport area, and then shipped downstream either to a railroad junction, or down to the sea.

Even the course of the Appalachian Trail, on the map we used, suggests that between Canaan, Conn., and Cornwall Bridge, Conn., the course of the trail was the river itself. Since organization of life amongst the Indians is now known to have been at a far higher level than once supposed, it is possible that "canoe service" may have been provided up and downstream by some of the peaceful tribe known to have inhabited the area.

A very large article of commerce once was tobacco, grown in the Housatonic Valley. A recent article in the Danbury Paper, one of a series surrounding an Indian Festival of major scope in Danbury, related that in the 1930's and 1940's tobacco still was an important crop. Later than that, into the late fifties, this writer saw several tobacco sheds still in use between New Milford and Brookfield, and a number of fields along route 7, in which tobacco was growing, shaded by alternate rows of tall corn.

When tobacco was a large crop, and manure was the fortilizer before the chemical days, it is possible that, AS WAS DONE ON THE FARMINGTON RIVER,

requisite supplies from dairy farms was transported by barge to the site.

SURPLUS WATER **ROCKY RIVER

Our own concession that surplus water from Government Dams on this interstate, federal river, is not an issue in this Jurisdictional matter is made with this suggestion: This is a present condition.

We respectfully point out the Army Corps studies. We disagree with the suggestion that was made to create impoundment at Roxbury, and drown out historic towns, and flood much of the scenic valley. We are glad it is all but abandoned. Yet, we cannot rule out that the next century could call for some government construction, especially in the Massachusetts area near Lanesville, where the Hoosic emrges to flow west, close to the area of Housatonic headwaters.

Nor, in light of conditions of ENERGY SHORTAGE, AIR POLLUTION, even Recreation, in which FPC has obvious jurisdiction, can we rule out for the future the restoration of a geologic fact. THE HOOSIC AND HOUSATONIC HEADWATERS IN PART WERE ONCE ONE. It may at some time become economically desirable to join Pittsfield area and the Hudson by canal. The Hoosic is navigable for a good way and has a number of industrial towns on its banks. An impoundment of the next century, or late in this one, might be considered worthy to provide cheap, energy-saving canal transport to the Port of New York, and at the same time provide surplus water from a federal dam.

In addition, since there are innumerable sites for local power development, who is to say that water-wheels, especially when teamed with windmills, may not be part of federal energy policy.

ROCKY RIVER ITSELF RECEIVES ITS ENTIRE WATER SUPPLY FROM THE WATERSHED OF THIS TRIBUTARY OF THE HOUSATONIC, AND BY PUMPING HALF OF ITS USAGE FOR THE PLANTS UP INTO THE LAKE, SEASONALLY, FROM THE RIVER, WITH RAINFALL ABOUT BALANCING EVAPORATION.

We believe that setting of the date, 1935, WAS IN NO SENSE INTENDED AS A "GRANDFATHER CLAUSE" to favor utilities and remove them from control. Instead, we believe that it was purely a matter of practicality.

~~Ex~~ No. 17 Benedikt - Direct 591

THE PHYSICAL CONDITION OF THE ROCKY RIVER PLANT

We dealt with Congressional Intent as to 1935 date. We believe that possession of this plant by NORTHEAST UTILITIES, for 8 years, its usage, and the vast changes currently being made in the plant, are the decisive factors to determine whether date is a factor.

Here we have an 8 year old company, that in usage has an operating unit different as day and night from the original, claiming exemption of a key unit on grounds of antiquity---although its entire plans for Western Connecticut depend on altered use of this facility.

At New Milford, a three-week hearing was held before the Public Facility Evaluation Council of Conn., during August. Entitled "Application for a Transmission Line between New Milford and Danbury," the application was so voluminous it appeared in TWO volumes, one a 100 page bound volume entitle, "Text" and volume two, "Graphics," a presentation of maps and physical data.

The plant itself at New Milford on the Rocky River-Housatonic site is the hub. SO VITAL IS IT THAT CLP CONCEIVES THAT ANOTHER APPLICATION FOR A LINE AT SOUTHBURY COULD NOT COME INTO BEING, UNLESS THIS ONE IS APPROVED.

Of course, the plant has been part of a grid for several years, and now is proposed at New Milford to be the focal point of the grid to serve the Housatonic Valley towns and the growing industry of Danbury.

APPLICATION IS FOR A 345 KILOVOLT LINE. We think that it is self-serving for CLP to claim that the plant is unaltered because the turbines after 45 years are the same! CAN FAILURE TO MODERNIZE, WITHHOLDING OF EFFICIENCY OF AN ESTABLISHED PLANT, IN THE LIGHT OF ENERGY NEEDS EVEN BE CONDONED AT A HYDRO-ELECTRIC PLANT, LET ALONE REWARDED WITH SPECIAL PRIVILEGE AND EXEMPTION TO AN EIGHT YEAR OLD COMPANY?

With that rationale, the turbines, held together indefintely with a lick and a promise, could be used to remove control of a multi-state grid, with possible impairment of maximum efficiency of the grid itself.

IN THE PAST YEAR, PHYSICAL CHANGE, INSTALLATION OF MODERN EQUIPMENT, USE OF FAR GREATER AREAS OF THE SITE FOR TRANSFORMERS, can only be described as enormous.

Late in August, the writer saw 10 vehicles of CLP strung along the site, with workmen from each engaged at various points. Included were two cable stringers, about thirty feet apart, on opposite sides of Route 7, pasting high tension wire from the plant side to poles.

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PRESIDING JUDGE: Proceed, Mr. Benedikt.

THE WITNESS: I will supply figures which I believe are correct.

There are 25,000 acres in the drainage basin of Lake Candlewood.

The top 6 inches of water, when the lake is at its normal level, equal 500 million gallons.

In the study of potential water usage for potability, conducted by the Housatonic Valley Council of Elected Officials, their consultant, Technical Associates, stated:

"There is a potential of 27 million gallons per day."

I, myself, multiplied this. It comes out about "9.9 billion gallons a year."

To the best of my knowledge, as I remember the figures from an authoritative pamphlet by John Frinck, Director of the Agricultural Experimental Station of the Unviersity of Connecticut, approximately 2.7 billion gallons are drawn from the lake a year, and about 1,300,000,000 gallons are pumped up from the Housatonic River.

It was told to me that the 43,000 kilowatt hydroelectric facility, when operating, is capable of serving about 15,000 residential customers. I stress "residential."

When there are very heavy rains Lake Candlewood can rise 1-to-2 feet, I would say within 24 hours. The potential for

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rapid rise is inevitable because as development occurs in the [illegible] ground absorption of downfalls becomes less, and more tends to reach tributaries.

I estimate myself that if 25 percent of the 9.9 billion gallon potential per annum were used for hydroelectric production, even without improvement of equipment there would be an approximate doubling of output.

When the pumps reverse, according to what Mrs. Mary Gaudet, Chairman of the Lillinonah Authority told me, when they reverse they are capable of pumping 4 million gallons of water per minute into the storage basin called Lake Candlewood.

I would like to record that in the summer of 1974, this summer a canoe trip of students under the direction of Sid Anderson, who runs an organization called "Beneath the Surface" made a canoe trip all the way from Falls Village to Derby. They took a week, during which time they spent some of it on tributaries and some with Mr. Swigart, according to an article I read in the Danbury News-Times.

MR. KNICKERBOCKER: Your Honor, may we go off the record?

PRESIDING JUDGE: Yes.

(Discussion had off the record.)

THE WITNESS: One more point.

When people identify things as "pleasure boats" we should not lose sight of the fact that there is a commercial purpose also on occasion. Sometimes a pleasure boat might

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be mistaken for an oyster dredger's boat. 80,000 bushels of oysters, according to the Department of Environment's Mr. Baker, seed oysters, were extracted from the Housatonic River during the past season, and the industry has revived with 100, approximately, licensed seed-oyster extracters, or whatever you would call them.

Also, with pleasure boats, a lot of them are rented for the day, or the week, from commercial mariners. We do have considerable haulage of boats interstate and out, and servicing and other matters are pretty extensive. They form part of local economy.

I will try in a brief to produce the statistics as to the largest boat registered in our town, if it would be admissible.

I will state that Rocky River, in my opinion, if given full operation according to its true potential, without harm would increase the steadiness of output of plants below.

MR. KNICKERBOCKER: One clarifying question?

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PRESIDING JUDGE: Yes.

MR. KNICKERBOCKER: When you spoke of the oyster farming and the rented boats you were referring to Candlewood Lake?

THE WITNESS: No. The Housatonic River. I referred to an article that I have with me that I picked out.

MR. KNICKERBOCKER: Thank you.

THE WITNESS: I also will note that Senator Gunther of the State Senate is introducing a bill that would exempt people from requiring freshwater fishing licenses up to about Shelton, because of the reappearance of a number of marine species.

Riding by the Rocky River plant during the early summer and into about September the Rocky River plant, and others, I noted that a considerable amount of varied equipment was under installation.

Finished in 1920, the Rocky River Plant, with almost all of its present 32,000 kilowatt capacity, was a far cry from the contemplated addition of the 345,000 volt line.

Pupulation of the five Lake Towns (Danbury, New Fairfield, Sherman, New Milford, and Brookfield) was 28,776. In 1970, it was 83,520. Population of the 10-town Housatonic Valley Region included in the Housatonic Valley Authority territory was 40,908. In 1970, it was 136,412. The rate of growth has far exceeded the state as a whole, as the state less than doubled whereas this area tripled.

Originally, the plan was to serve the area principally, and part of it wholly, from the pumped seasonal storage facility. Water taken from it would be replaced by running the turbines with surplus electric from the Bulls Bridge plant in slack hours.

It is clear that the plant designed for 1930 in no way anticipated the unparalleled growth of the service area. Except for brick walls and relic turbines that must encounter wear and be replaced sooner or later, this is a different plant, serving a different market. A few hat factories and other minor plants were the industry of the period. Today, it is a rapidly growing area, with new large plants moving in. In fact, such is one of the reasons given by CLP for its proposal to construct the 345,000 volt line between the Rocky River plant and Danbury - to be able to serve rapidly growing industry.

It so happens the Candlewood storage basin is a major resting site for Canada Goose, a number of species of duck. Extremely large flocks fly over it. Resting on its waters, photos and counts of 99 to 134 have on occasion been made.

Moreover, the heights surrounding this lake are a favored eyrie of hawks, now considered an endangered species. So great is the interrelation of the Rocky River Project with Lillinonah, expecially, that conditions of this project must ultimately affect the fairly similar Lillinonah wildlife-migratory bird jurisdiction. Statistically, the Danbury News Times of

September 17, 1974, reports Motor-Glider pilot William Welch followed a kettle of 600 over Danbury on September 13, while this itself is only one-tenth of a record count of over 6300 hawks in a kettle. About 15 years ago, over the major lake Town, New Fairfield, with half of the lake within its boundary. The count of rare birds in this area is increasing, as they are driven in by development elsewhere, increasing FPC obligation.

So vibrant with news and activity is the Housatonic River that in the two days between writing of marine life in an earlier part of this brief, news of a bill in the Legislature has arrived. The bill would exempt from need of freshwater fishing license the taking of bluefish, snappers, striped bass, mackerel and whiging, saltwater varieties now running well upriver. Senator Geroge Gunther will introduce and sponsor the bill.

So different is the plant from original operation and purpose that in late 1972 CLP lowered the lake in order to install different lines from Rockey River Plant to reach New Fairfield, and, we believe, the western parts of the City of Danbury.

For, far from being a lazy, aimless, commerceless, second-rate stream, the Farmington was the site of a large tobacco industry, with manure hauled by barge to the planting fields, over a long stretch.

PRESIDING JUDGE: Off the record.

(Discussion off the record)

PRESIDING JUDGE: On the record.

THE WITNESS: Our Governor-Elect, Ella Grasso, has stated that continuity of the Connecticut Public Utility Commission in its present form is doubtful, and she has proposed, to the bes of my knowledge, a new type of Commission that would deal with numerous phases of energy. I do not think it would necessarily duplicate all of the responsibilities that I think belong with the Federal Power Commission.

Finally, thousands of years ago nature itself, and man thereafter in his use thereof has endowed the Housatonic with the attributes of a major system vital to the life of whosoever chooses to live along its basin.

MR. KNICKERBOCKER: May we go off the record?

PRESIDING JUDGE: Yes.

(Discussion off the record.)

PRESIDING JUDGE: On the record.

THE WITNESS: Ability to improve the turbines at Rocky River is attested to by the fact that water surveys by the Regional Authority have established that, without dams or diversions other than now exist, 27,000,000 gpd could be extracted from the Candlewood Pumped Storage facility by increased pumping from the river.

Fuel adjustment increases by this utility have been vast. Costs to all consumers are increased.

In practical effect, it amounts to drinking a glass of

water and saying this part is groundwater that flowed from the north and this is the part that fell as rain in my own backyard.

Formation of Northeast was not without challenge. Yet, such challenge was easily swallowed up within the state, and permits of merger acquired form the Connecticut Public Utility Commission with the barest minimum difficulty.

As an importer, CLP, located in the fastest-growing, and fairly high standard economic level of the area, would have had no difficulty to finance distribution lines, or a new generating plant. In fact, as an independent entity, CLP today would have far less difficulty to raise financing than as part of Northeast Utilities. Rates to regional users would be far smaller. CLP's position, backed by considerable hydro capacity, is far stronger as an independent.

In river use for trade or commodities, it makes little or no call upon Dr. Thorpe's scholarship in regard to the large number of other trades that we know existed, paper, textile, fur trade, fishing, tobacco, fertilizer transport, and whatnot. It ignores pointedly the historic use (now established to have been conducted 4000 years ago by Indians with the first established evidence anywhere of boats with keels.

It ignores all the evidence, in the Indian languages, that the Housatonic name itself, and the name Pootatuck all point to total Indian knowledge and usage of the river all the way into Massachusetts. In that State, we submitted a statement

of Canoe Meadows. The prepared work of Joseph E. Hickey and of the FPC staff elaborate on Indian usage, not only by themselves but in trade with the colonists.

CLP ignores also the future, history-to-be. In our brief we pointed to changing conditions that may well make some of the attributes of the River, not economically needed in the past, deeply desirable in the future. We cannot believe Congress intended its power policies to depend solely on the past, however much we cherish it, and are prepared to accept, as we are, its total support of our position.

West Cornwall, Connecticut, is rather far upriver within Connecticut. It is above the rapids where Dr. Collier feared that logs going downstream might be abraded by rocks.

It so happens that Cornwall and West Cornwall are the geo-center of lovers of the Housatonic River, the core of leadership of the Housatonic Valley Association.

It is the focal point of authorship, recordings of various items inherent in the supreme test of the navigability of the river, whether masts floated downstream to Derby, which "supreme test" is the main argument, apparently, of CLP counsel.

On Thursday, October 24, 1974 -- three days before the writing of this refutation -- there was held at Taft School, Watertown, the annual meeting of the Housatonic Valley Association.

I was fortunate enough to be able to discuss this matter with the most knowledgeable people on the subject, seeking information on West Swamp, of which I had heard. Mrs. Kay Fenn, Mr. Roland Fenn, and Mr. Frank Canhoun all live in Cornwall or West Cornwall, as does Montgomery Hare, chairman.

The Fenns and Mr. Calhoun, all persons apparently in their sixties, separately at once referred to a book, "Starr's History of Cornwall." It should be remembered that this is the site of the famous tourist attraction, the Cornwall covered bridge over the Housatonic.

Mrs. Fenn easily knows the location of the remnants of the swamp. There are still extra-tall pines in the area. Mrs. Fenn, who for thirty years was associated one way or another with town administration, says that town records make many references to masts going downstream. They suggested I make the point on their behalf that the town records were entered at a time when there was no malice or pre-thought of disputing the purpose of CLP or the statement Dr. Collier has made.

At the points of most rapid water and abrading rocks, the river is narrow, and a pikeman on the banks of the river could assist in keeping the raft headed downstream. The stability of three logs lashed into a raft, with a riverman aboard, is we think, greater than a single, unattended log. Even five logs is feasible.

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We do not think that mast logs going downstream as we described require chains across the river, in order to stop them. At the terminal point the current is not very swift. We believe that certainly the Indians, and possibly even colonists building seagoing ships, had by that time acquired the ability to use various small craft to nudge logs toward the shore, and in other ways to aid, in tugboat manner, to end their trip safely.

Exhibit R, Revised Exhibit S, of December 1970 produced by Donald Worth, of Vernon, and Mr. Thorpe, who testified here, is so full of error that we wish to write about it at a future time, in brief.

In conclusion, in the form of refutation, we believe that any impairment of fish runs or ability to proceed on the waterway as in former times is caused by acts of CVP itself, or other power companies perhaps, by the effects of construction of its own dams, and therefore the issue is without merit.

I think you, Your Honor, and the gentlemen and Mrs. Boikess who helped me.

PRESIDING JUDGE: Thank you, Mr. Benedikt.

Mr. McIntosh.

MR. MC INTOSH: I would like to state first, Your Honor, that Mr. Knickerbocker and I are under a compulsion to leave shortly to catch our airplane, otherwise we may not return to our homes until tomorrow sometime.

Perhaps that pressure of time is going to influence some

Of the judgments I am about to make.

First, I believe Mr. Benedikt has perhaps inavdertently included in his testimony portions which one or more of counsel had earlier advised him dealt with matters which were non-factual in nature. I do not want it to be left on the record that in any manner any portion of that testimony has necessarily been judged by any counsel to be factual in nature.

PRESIDING JUDGE: I might say that as I read the record I will be able to determine what is opinion and what is fact, and I will treat it accordingly. I will give it the weight I think it deserves.

MR. MC INTOSH: Thank you.

Secondly, Your Honor, I submit Mr. Benedikt's testimony is filled with materials which are argumentative, are inaccurate, that it contains misdescriptions, errors regarding factual situations. It contains unsupported opinions, assumptions, and assertions.

Great portions of it I believe are objectionable as being irrelevant, immaterial and incompetent.

I will not move to strike all or any portion of Mr. Benedikt's testimony. I do not know what other counsel will do with regard to the testimony. But I believe Your Honor will give to it the weight it appropriately should receive and the Commission as it has the opportunity to review the record,

will do likewise.

I would like to address some remarks specifically to Mr. Benedikt as well as to the record, because I know, or suppose, Mr. Benedikt will be appearing in proceedings other than this at other times, and he may choose to refer to the posture taken by the applicant at this time in connection with statements he just made.

I wish to make it very clear that failure by the applicant to move to strike at this time, failure to cross examine the witness, and failure to submit rebuttal testimony, should not be interpreted as an agreement or a concession by the applicant to any portion of Mr. Benedikt's testimony or an agreement that any weight should be given to that testimony by the Federal Power Commission or by any other public body or private person.

Your Honor, I realize other counsel will wish to comment on Mr. Benedikt's testimony. I ask that I be allowed to make another statement at this time.

PRESIDING JUDGE: Go ahead.

MR. MC FITCSH: The other statement refers to materials requested by Mr. Telleen and/or Mr. Kosloff on behalf of the Connecticut Department of Environmental Protection. I have today delivered to Staff counsel, and other representatives of intervenors in this proceeding who are here represented, additional material regarding Professor Collier's testimony.

This additional material identifies sources for statements made by Professor Collier in his prepared direct testimony and his rebuttal testimony. We have already supplied, of course, Exhibit 11, an 11-page bibliography of materials relied on by Professor Collier in preparing his direct testimony, and the testimony of Professor Collier on cross examination has also specifically identified sources which support certain of those statements made in prepared testimony.

The material we have supplied today consists of a one-page list of abbreviations used in citations by Professor Collier. It consists of portions of three pages entitled "Bibliographic Essay ," which generally describe the libraries, indices and other sources utilized by Professor Collier in his work.

It then contains six pages entitled "Citations," which list specific pages and similar identifications of particular sources identified by Professor Collier to support the statements made in his prepared direct testimony.

That is followed by four pages which are untitled, showing citations of particular sources identified by Professor Collier to support statements made in his prepared rebuttal testimony.

These materials which I have distributed today identify the materials which Professor Collier has utilized or referred to or reviewed in connection with the testimony presented in this proceeding and the report supplied to our lawfirm.

Editorial comments have generally been removed

from the materials which have been supplied today, as have checkmarks and other similar markings which may have been placed on earlier forms of the material by counsel and persons assisting Professor Collier. It is my understanding that the Staff has now received lists and other descriptions of all relevant source materials reviewed by Professor Collier. In particular the six pages entitled "Citations" includes all materials referred to by Professor Collier in materials forwarded by him to Professor Hoyt for review and comment by Professor Hoyt.

I might note that on the last and next to last pages of the four untitled pages of citations dealing with Professor Collier's rebuttal testimony we have removed the title of the report which was submitted to our law firm, but have left a reference to the report itself, and I have explained that informally to Mr. Hull (?) of the Commission staff.

We will of course also supply copies of this material to the counsel for the Department of Environmental Protection, which has expressed similar interest in seeing it.

Your Honor, I believe we have now furnished to Staff counsel and intervenor representatives lists and other materials showing all relevant sources utilized by Professor Collier in preparing his testimony in this proceeding, both direct and rebuttal, and also citations made by Professor Collier in draft materials forwarded by Professor Collier to

Professor Hoyt.

At this time, Your Honor, in order to simplify the proceeding and to clarify the issues for whatever future motions might be made by Mr. Telleen, I will withdraw the portions of Professor Collier's testimony which relate to the draft report forwarded by him to Professor Hoyt.

MR. BENEDIKT: May I state an objecton to withdrawal of all reference to Hoyt?

PRESIDING JUDGE: Just a minute.

MR. MC INTOSH: The specific reference on page 2 of Professor Collier's rebuttal testimony, lines 49 and 50, and continuing on page 3 through line 18. We withdraw that portion of Professor Collier's rebuttal testimony, and I believe with it the only reference to the preliminary materials forwarded to Professor Hoyt.

PRESIDING JUDGE: Do you have a statement to make Mr. Telleen? I think we better make it brief, to accommodate counsel.

MR. TELLEEN: Your Honor, in regard to withdrawal by Connecticut Light and Power Company of those portions of Professor Collier's rebuttal testimony I would note that my motion for the particular workpaper which Professor Collier gave Professor Hoyt stands at this time, subject to my withdrawal.

PRESIDING JUDGE: You need not go into that. You are

addressing yourself to the right to withdraw?

MR. TELLEEN: No. The right to withdraw stands.

PRESIDING JUDGE: I will regard your motion as standing.

MR. TELLEEN: In regard to the materials which Connecticut Light and Power Company has provided Staff and other parties today in terms of what Professor Collier specifically relied on in his prepared testimony, it is Staff's assumption that these materials correlate exactly to the bibliography which at this time is identified as Exhibit 11, I believe.

I am sorry. It has been admitted.

This was the purpose of our request. I would say, as far as the material for clarification of exactly what the use was of the sources printed on that bibliography, I would note, while Staff received a copy of these clarification materials, Connecticut Light and Power Company either today or at the hearing session scheduled for January 7, 1975, should submit for Your Honor on the record those materials which Staff and other parties today have received so that the record will accurately reflect exactly what use Professor Collier made of those sourceslisted in his bibliography.

PRESIDING JUDGE: I think we can leave that until January 7.

MR. TELLEEN: Very well, Your Honor.

PRESIDING JUDGE: Have you finished?

MR. TELLEEN: I have finished with the statements as to Connecticut Light and Power. I have not commented on Mr. Benedikt's testimony.

PRESIDING JUDGE: Mrs. Boikess, do you have anything on the statement Connecticut Light and Power made?

MS. BOIKESS: No, Your Honor.

PRESIDING JUDGE: Mr. Benedikt wants to object to the withdrawal of the rebuttal testimony. Was it rebuttal?

MR. MC INTOSH: Rebuttal, Your Honor.

PRESIDING JUDGE: He wishes to object to the withdrawal of the rebuttal testimony relating to the submission of material to Professor Hoyt. I don't believe we can stop anyone from withdrawing something.

MR. BENEDIKT: I will state why.

PRESIDING JUDGE: I don't want you to state why. The objection is overruled.

MR. TELLEEN: In terms of Mr. Benedikt's oral this afternoon, the Staff at this time makes no motion to strike any parts, but joins in the comments by Mr. McIntosh as to the appropriate weight to be given to whatever may have been said.

PRESIDING JUDGE: Thank you.

Mrs. Boikess.

MS. BOIKESS: The Candlewood Lake Authority agrees with

the points made by other counsel that the statements of Mr. Benedikt may include material which is argumentative, factually inaccurate, unsupported opinion, and other materials of questionable evidentiary worth.

Its failure to move to strike is also not to be interpreted as any agreement or concession that this material is valid evidence, that it should be given any weight at all either by the Administrative Law Judge or by the FPC.

Most specifically, it is not a concession by the Candlewood Lake Authority that Mr. Benedikt or his organization speak for the people of the five towns which surround Candlewood Lake and which make up the Candlewood Lake Authority, a quasi-public agency.

He does not speak either for the Authority or for the people of the towns which make up the agency.

I don't want to indicate that any of the opinions or statements made have any factual worth at all. But I particularly want to point out that on page 18 the population statistics given do not coincide with the most up-to-date population statistics as the Authority understands them to be.

PRESIDING JUDGE: Thank you.

I was going to make a statement of a few minutes, expressing my appreciation for the cooperation that has been afforded me by all parties to this proceeding. It has been a very difficult

proceeding.

In view of your need to catch a plane I will just say "thank you."

MR. MC INTOSH: Thank you, Your Honor.

PRESIDING JUDGE: We will resume on January 7, 1975.

Thank you, Mr. Benedikt. You may step down.

(Witness excused.)

(Whereupon, at 2:50 p.m., the hearing was adjourned, to reconvene at 10:00 a.m., on January 7, 1975.)

Vol 6

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BEFORE THE

FEDERAL POWER COMMISSION

In the Matter of:	:	
THE CONNECTICUT LIGHT AND POWER COMPANY	:	Project Nos. 2576, 2604, 2632, 2646

ROom 5200
Federal Power Commission
825 North Capitol Street
Washington, D. C.

Tuesday, 7 January 1975

The above-entitled matter came on for further hearing, pursuant to recess at 11:15 a.m.

BEFORE:

ISRAEL CONVISSER, Presiding Administrative Law Judge

APPEARANCES:

(As heretofore noted.)

P R O C E E D I N G S

PRESIDING JUDGE: On the record.

Let the record show that our late start is the result of inclement weather in the State of Connecticut and I guess more particularly the City of Hartford. Fortunately, we are all here now and are ready to proceed.

Have the witnesses put their direct testimony in?

MR. TELLEEN: Your Honor, in terms of the two staff witnesses direct and rebuttal testimony and accompanying exhibits have been filed and mailed to the parties some weeks ago. However, we do have a packet of materials, several exhibits, three of which were passed out to the parties during the November hearings. We are prepared to redistribute those. Attached to those are about 10 exhibits which have come into being in the month during which we have been doing further research.

I would like to pass these out to the parties at this time. We would hope to introduce them when Mr. Hull goes on the stand.

PRESIDING JUDGE: Who is going on first?

MR. TELLEEN: Mr. Hickey for the State of Connecticut. I would like to pass those materials out to the parties now so that they might have them some couple or three hours before Mr. Hull goes on the stand.

PRESIDING JUDGE: You may do so.

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MR. TELLEEN: Thank you.

(Mr. Telleen distributing documents.)

MR. TELLEEN: I might add, Your Honor, that because of the shortness of time these exhibits have not been filed with the Secretary of the Commission, nor have they been mailed to all other parties not here present. They will be filed, however, and mailed to parties not here present.

PRESIDING JUDGE: Very good.

Mr. Kosloff, are you presenting Mr. Hickey?

MR. KOSLOFF: Yes.

PRESIDING JUDGE: Is Mr. Hickey ready to assume the stand?

MR. KOSLOFF: Yes, he is, Your Honor.

Will you take the stand, please, Mr. Hickey.

Whereupon,

JOSEPH E. HICKEY, JR.

assumed the witness stand and, having been first duly sworn, was examined and testified as follows:

MR. KOSLOFF: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. KOSLOFF:

Q Please state your name and address?

A I am Joseph E. Hickey, Jr., and I live at 20 Meadowview Drive, Wethersfield, Connecticut.

Q What is your occupation?

A I am employed by the State of Connecticut, the

Department of Environmental Protection.

Q What is your present title with the Department of Environmental Protection?

A I am the State Environmental Planner for the Connecticut Department of Environmental Protection.

Q How long have you been with the state government?

A I have been with the state government as a contractor and as an employee since 1961.

Q How long have you been the state environmental planner for the Connecticut Department of Environmental Protection and its predecessor, the Department of Agriculture and Natural Resources?

A About 4-1/2 years.

PRESIDING JUDGE: Excuse me, Mr. Kosloff, I notice Mr. Hickey is reading. Is this prepared testimony that he is reading from?

MR. KOSLOFF: Not in the strict sense.

PRESIDING JUDGE: Then proceed. I thought we might save some time.

MR. KOSLOFF: Very well.

BY MR. KOSLOFF:

Q As the state environmental planner, Mr. Hickey, what are your responsibilities?

A My responsibilities are to analyze and evaluate a broad range of environmental issues frequently involving

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research work on such topics as conservation, recreation, natural resources, land use, environmental impact and preservation.

Q What is your educational background?

A I received my bachelors and masters degree in geography from Clark University in Worchester, Massachusetts. I have also completed all of the requirements for my Ph.D. in geography, except for my dissertation, at Clark University.

Q As a geographer by training and as an environmental planner by experience, have you had occasion to do research papers and reports in the past?

A Yes, I have frequently. In fact, I have had a substantial number of articles and reports published. I could give a few prime examples.

Q Please do.

A Number one is an article called "The Man-Land Relationship" in the Journal of the American Institute of Architects, 1965.

Also, "Scenic Ways to Scenic Roadbuilding" in the Traffic Quarterly in 1965.

Among the reports I have done while with the state two prime ones were "The Green Land" and "The Appearance of Connecticut." These were both done for the Connecticut Interregional Planning Program.

Q You have had occasion in the past to apply techniques

of research and analysis to a variety of topics?

A Yes.

Q Has your work included researching and analysis of historical facts?

A Yes, it has.

Q Mr. Hickey, I hand you a document entitled "Navigability of the HOUSATONIC River: Report on Findings of Historical Evidence" and I ask if you can identify this document?

A Yes, I can. This report was prepared by Mr. John Woodhull, a summer intern with our department. It was prepared under my direction.

Q Did Mr. Woodhull work for you and was he responsible to you in its preparation?

A Yes, sir. I was his supervisor.

Q Were you responsible for evaluating his work?

A Yes.

Q Did Mr. Woodhull prepare this report for you while under your direction and supervision?

A Yes.

Q Have you had occasion to review the contents of this document?

A Yes, I have. As Mr. Woodhull's supervisor I fully reviewed the document. I have personally examined the historical references cited by Mr. Woodhull. On the basis

of my review of the source materials therein cited, the facts as stated in the report are true to the best of my knowledge and belief with two exceptions. Point number one, on page one Mr. Woodhull refers to New Milford. That, of course, should read "Milford."

The other one is in Appendix B, page 3, where it should read "northwest" and not "northeast."

MR. TELLEEN: Excuse me, Mr. Hickey, could you give us a general idea as to the line number for that?

THE WITNESS: Yes, sir, Mr. Telleen.

Correction number one is about halfway down the page, the second paragraph, under the heading "Early Trade on the Housatonic." It speaks of New Milford, and it should read "Milford."

MR. TELLEEN: On page 3 of Appendix B?

MR. KOSLOFF: Your Honor, at this time I would like to offer this document in evidence.

PRESIDING JUDGE: Just hold it a moment until he finds the reference.

THE WITNESS: Under the heading "Three Centuries of New Haven," it is about four or five lines down where it says, "The New Haven merchants also seem to have made a thrust towards the northeast." That is a typographical error and should read "northwest."

PRESIDING JUDGE: We have an offer of this document into

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evidence. Is there any objection?

(No response.)

There being no objection, it will be marked and received into evidence as Exhibit No. 19.

Will you give me the title again?

MR. KOSLOFF: It is "Navigability of the Housatonic River: Report on Findings of Historical Evidence."

PRESIDING JUDGE: Will the reporter be given two corrected copies, and I should like a corrected copy.

MR. KOSLOFF: Yes, sir.

(The above-referenced document was marked for identification and received into evidence.)

BY MR. KOSLOFF:

Q Mr. Hickey, I hand you a document entitled "Testimony of Joseph E. Hickey in the Matter of the Connecticut Light & Power Company, PWR-LP, Project Nos. 2576, 2604, 2632 and 2646. And I ask if you can identify it.

A Yes, sir. It is my prepared testimony in this matter.

Q Are the facts therein contained true to the best of your knowledge and belief?

A Yes, sir, with one small addition. Footnote No. 16 should be added at a paragraph ending with "Connecticut." I am very sorry. There seems to be a minor typo here. I will have to look and get you the correct page. That is the

paragraph ending with the word "Connecticut" on line 7.

MR. TELLEEN: What page?

THE WITNESS: It is page 7 of my rebuttal testimony.

PRESIDING JUDGE: Your rebuttal?

MR. KOSLOFF: Yes, Your Honor, his rebuttal.

Your Honor, is the procedure to ask that this testimony be admitted into evidence.

PRESIDING JUDGE: It will be copied into the record, but let me ask you: If you were asked the questions appearing in this document, would your answers be those which also appear?

THE WITNESS: Yes, sir.

PRESIDING JUDGE: The reporter will please copy the prepared testimony into the record.

(The prepared testimony of Joseph E. Hickey is as follows:)

BEFORE THE
FEDERAL POWER COMMISSION Hickey,Jr.-Direct 621

TESTIMONY OF JOSEPH E. HICKEY IN THE
MATTER OF THE CONNECTICUT LIGHT
& POWER COMPANY, PWR-LP
PROJECT NOS. 2576, 2604, 2632 and 2646.

In reviewing the testimony prepared for the Connecticut Light & Power Company regarding possible FPC jurisdiction over hydro power facilities in the Housatonic River watershed, I was concerned particularly with the statements of Messrs. Collier and Thorpe which deal with the issues of navigability. Their papers address themselves both to the physical character of the Housatonic River and to written historical record.

Generally speaking, their contentions can be grouped into several major categories, as follows:

1. Boating Mr. Thorpe is a well-known fish biologist and fish and game administrator, but is not necessarily known as an expert in small-boating. He made the following comments on Page 3 of his testimony:

> "From the Great Falls at Falls Village to Shelton, small boats would have had to portage at several points even during that brief period during the decline of the spring runoff when downstream passage of small boats and canoes is possible. During most of the year there is simply not enough water to float even small boats or canoes over the shallow bouldery riffles between pools. Even at best then, transport of people between the Great Falls and tidewater would have been possible for only a brief time downstream, and with several portages."

In response to this assertion made regarding the need for portaging, I think it is necessary only to refer to the FPC definition of "navigable waters" which states that such waters may have interruptions between the navigable parts such as falls, shallows, or rapids. In addition, Mr. Thorpe's testimony should be compared with the following excerpts from Fellows' Boating Trips on New England Rivers, referring to a late September voyage by skiff at a time of low mean flow on the river:

> "I have little hesitation, however, in saying that the river from Pittsfield to Falls Village is navigable in a flat-bottomed boat at all times; and that one can indeed get along below Falls Village, too, although the greater the volume of water below that point the greater the pleasure of a trip." 1

Compare also the following statement by Fellows referring to that stretch of the river between Lover's Leap in New Milford and tidewater in Derby:

> "We had supposed that, below the gorge, we should have smooth, deep water and level country. We found, however, instead, that the river was rapid and stormy, and ran through a valley, between mountains amid scenery quite as wild and grand as above New Milford. We occasionally came across a troublesome shallow place, and often the inevitable fish-way, where we invariably had an interchange of opinion as to the best course to take. The going was very good, however, for the most part." 2

I think it is clear that the previous statements by Mr. Fellows attest to the feasibility of small boat travel on the Housatonic from Pittsfield to the Sound. Further evidence supporting this position can be gleaned from a description of the physical character of the river. According to Dewey[3], at the Massachusetts-Connecticut State line,

> "the river is here ten or twelve rods in width, with a depth of perhaps four feet. At Great Barrington, it is about six or seven rods in width, and its depth less than three feet. At Stockbridge, the width is little less, but with less depth of water. At the junction of the two branches in Pittsfield, the river is about three rods wide, and perhaps has an average depth of two feet."

U. S. Geological Survey flow records[4] indicate the rather substantial volume of water which this river contains, as seen below:

Location	Annual Average Flow (cfs)	Assured Flow at Least 80% of Year
Bulls Bridge	1290	392
Rocky River	1740	514
Shepaug Dam	2260	696
Stevenson Dam	2536	751

Although cfs statistics cannot readily be converted to precise standards of adequacy for small boats and canoes because of the greatly varying characters of streams and their channels, it is noteworthy that the Farmington River Watershed Association considers the Upper Farmington River near Riverton canoeable when it contains 250 cfs, with 400-500 cfs needed for special whitewater races.[5]

Also, in relation to the question of boating, Professor Collier asserts on Page 4 of his testimony that:

> "the River, of great importance as a power source, was insignificant for transportation north of Derby. I dare say that no one in eighteenth or nineteenth-century Connecticut was making a living from the navigation of the Housatonic River north of Derby, nor is there any evidence that anyone was dependent on the River for transportation.
>
> Although there exists some evidence that during the spring freshets boats of some sort could proceed from New Milford, Connecticut, to Derby, it si far from certain that these boats carried either passengers or cargo."

Evidence cited in previous submissions of the Department of Environmental Protection indicate the presence of an active fur trade during the mid-17th century, with a trading post located at the Great Falls (Lover's Leap) in New Milford,[6] a center for Indian population and a point where the first portage for travellers going upriver was required. Thus one must assume that the Housatonic River, at least as far upstream as the New Milford area, was an integral part of the trading economy of the New Haven Colony, a trading economy which ultimately reached from the wilds of far off Weantinock to the wharves of bustling London. One may also speculate on the likelihood of upriver Indians, perhaps from as far away as the major one-time village in the Stockbridge, Massachusetts area, coming downriver to trade with the Englis entrepreneurs at Goodyear's Island below the Great Falls.

Concerning Professor Collier's assertion that no one made a living from navigation on the Housatonic, I would like to refer again to previous submissions of the Department of Environmental Protection referring to evidence in the "Connecticut Archives" of Mr. Peter Hubbell's commercial ferry operation between Newtown and Southbury from 1730 through at least 1751. Mention should also be made of the existence of a ferry near Cornwall Bridge which was "maintained for many years."[7]

2. Log Driving

a. Lack of Historical Documentation. In reviewing Mr. Collier's testimony (pp. I and II) as to lack of historical documentation of navigability, it appears that Mr. Collier's research was done largely for the post 1790-1800 era. There is evidence in previous submissions of the Department of Environmental Protection that log driving occurred in the pre-1800 era, particularly in pre-Revolutionary days before the virgin forests of Northwest Connecticut, which contained then as today[8] a substantial mixture of white pines, were cut down and replaced by farmland. Prior submissions of the Department of Environmental Protection discussed the shipbuilding industry of the Housatonic Estuary and the documented local shortage of needed lumber for this industry by 1700. The natural place to look for such a source of supply was in the Derby area which contained a concentration of needed pine lumber for masts, arms, and sprits and where a ready stream existed for water transport. As this shipbuilding industry apparently faded by 1800, either because of the exhaustion of the valley's forest resource or because of an inability to compete with major shipbuilding centers elsewhere, the lack of large-scale historical documentation after 1800 is not surprising.

During this pre-1800 era, there was also interest in the upper valley's prime forests as a source of lumber, shingles, etc. Much of this industry may have been carried on locally, as hypothesized by Professor Collier. However, some forestry activities seem to have involved a longer transport of the logs, as discussed by Professor Dewey in his A History of Berkshire County. As Professor Dewey was a clergyman and as the book was commissioned by the Berkshire Association of Congregational Ministers, all of whom would have ranked among the most learned members of their society, I think it is safe to assume that historical veracity was a prime goal of their project. Further evidence of log driving on the river above Derby can be seen in previously cited sources such as Johnson's Newtown History (p. 24) and the

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"Public Records of the State of Connecticut" which refer to a proposed navigation-improving project circa 1795 in the Housatonic River as quoted below:

> "Provided nevertheless that nothing in this Act be construed in the least Degree to affect the rafting of Timber and Lumber down the present Bed or Channel of said River and the Fishery thereof."

b. The Physical Difficulties Which the River's Character Posed to Log Driving.

In reviewing Mr. Thorpe's testimony (p. 4) and Mr. Collier's testimony (p. 11) with respect to physical difficulties which they preceived the river's character posed to log driving, reference should be made to Stewart Holbrook's Yankee Loggers (see Appendix A). According to Holbrook, many far smaller streams were used for log driving in New England both in the pre-Revolutionary earlier mast stage and in the latter lumber stage. Holbrook's text clearly indicates the nature of the typcial log drive and the fact that falls were considered an unavoidable but far from insurmountable part of the work of the log drivers. Further evidence of the frequently small size of streams utilized can be obtained from the following references from Malone's Pine Trees and Politics:

> "Most of Benning Wentworth's 'surveying' took place in central New Hampshire, where new townships were being erected and lands were being granted wholesale. This region, which was bounded on the west by the Connecticut River and the east by the Maine border, was a vast forestland. It stretched north to the Saco, where that river bent around the great mountain later given the name of Washington, to flow eastward into Maine. In the south the choice tracts of land were located along the Merrimack and the rivers which flowed into it, the Piscataquog (which met it at Manchester), Suncook, Souhegan, and Nashua. These were the rivers upon which the millmen worked, as they had upon the Piscataqua, Cocheco, and Exeter but a generation before."[9]

To place this documentary material in perspective, some comparative flow analyses are given below, indicating the comparatively large spring freshet enjoyed by the Housatonic and the resulting feasibility of driving logs:

RIVER FLOWS 1971-1972

Source: USGS 1972 Water Resources Data

Housatonic River

MEAN FLOW IN (000) CFS

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT
Falls Village	.6	.7	1.8	1.4	.8	2.2	2.8	2.6	2.6	2.1	.5	.3
Gaylordsville	1.	1.1	2.8	2.2	1.5	3.8	4.1	3.5	4.1	3.3	.7	.4
Stevenson	1.7	1.8	4.3	3.4	2.7	6.9	5.5	5.2	7.0	4.7	1.0	.5
1st Conn. Lake, Pittsburg, N.H.	.2	.3	.4	.2	.2	.2	.1	0.05	.3	.3	.3	.1
CT. River Dalton, N.H.	1.5	1.4	2.0	1.5	1.1	2.1	4.9	11.9	3.0	2.6	1.9	.9
White River, VT	.3	.4	.9	.8	.6	1.6	3.7	4.4	.9	1.2	.6	.2
Ammonoosuc River, Bath NH	.3	.2	.3	.3	.2	.7	1.4	2.5	.8	.4	.2	.1
Piscataquog	.08	.08	.2	.2	.3	.7	1.3	.7	.4	.2	.04	.03
Souhegan	.05	.07	.2	.3	.3	.7	1.0	.7	.4	.2	.05	.04

I think the best answer to the question of the feasibility of driving logs down a river with rapids and falls can be seen in Malone's excellent work. As seen in the excerpts below, losses through breakage were unavoidable:

> "Breaking or splitting of trees felled in uncleared areas was unavoidable, as were damages due to the rough terrain over which trees often were dragged en route to the water's edge. Such mishaps were as unpreventable as the turn of wartime events which left a large shipment of masts to rot in the loading ponds of the Pisca."[10]

* * * * * *

"Westbrook's masting teams encountered great difficulties. Newly felled masts were rolled into the river, in which they were destroyed either by the jagged rocks or in crashing through the rapids."11

However, the risk involved was richly rewarded by the return, thereby justifying the investment in time and effort by lumbermen in a near-subsistence economy. Again, related excerpts from Malone well illustrate the point to be made, as follows:

"A white pine of twenty-four inches diameter at the base, twenty-seven yards long, cost the Navy Board £ 35, while a mast of thirty-six inches diameter, thirty-five yards long brought £ 135 in the same shipment. The price remained high - in 1736 a pine of thirty-eight inches diameter, as many yards long cost £ 155 10s., and in 1768 the Navy Board purchased a mast thirty-six inches in diameter, as many yards in length for £153." 12

* * * * * *

"Knowledge that a thirty-six inch white pine was worth £ 135 as early as 1664, £ 156 in 1700, and only three pounds less in 1768 was bound to have an impact upon land values."13

Despite the inevitable loss through breakage, the wise logger knew how to minimize the risk through careful felling of the selected trees and the equally careful transport to waterside. Once in the river, the log was not always left to the questionable mercies of the current. As described in Malone below, the wise logger knew how to "twitch" his log in and out of the water at the appropriate time and place:

"The masting teams knew the rivers as well as they did the forests. The mast pines were guided around submerged rocks and drawn up on riverbanks to be dragged around waterfalls and rapids."14

The preceding analysis reflects the prevailing log driving customs in New England, especially in the earlier, mast-hunting phase. Clearly, within the framework of these customs and of the water available in the Housatonic, log driving was not only feasible but likely, especially below the major obstacle posed by the Great Falls at Falls Village.

c. Likelihood of a Water-oriented Logging Industry in the Housatonic Valley.

In reviewing Mr. Collier's testimony (p. 10) and Mr. Thorpe's testimony (p. 4) to the effe-t that there was no mast industry on the Housatonic serving the British Navy and probably no more modest masting operations as well, I agree in general that there was little masting done for the Royal Navy in Connecticut. See, for example, the following historical reference from Malone:[15]

> "A good general picture of the colonial mast trade near the end of British rule may be gained from Customs 16/1. Ports which were net exporters of masts (and this also applies to yards and bowsprits) sent the great bulk to the British Isles, with the West Indies a poor second, followed by the coastal trade. The net exporters from 1768 through 1772 were:

	Masts plus	Tons of Masts
Halifax	275	55
Piscataqua	754	559
Falmouth	1046	3936½
Salem-Marblehead	8	12
Boston	164	182
New York	12	206
Philadelphia	4	94
Lower James River	21	49 "

However, Professor Collier's statement "that there was no masting done for the Royal Navy in Connecticut at all" does seem somewhat at variance with Holbrook's assertion that violence between the Crown's Surveyor General and local loggers over use of mast trees also occurred in Connecticut.[16]

Nonetheless, the argument that the transport of the long, heavy Kings Masts would not be feasible on a stream such as the Housatonic must be considered in light of the types of ships actually built in the Housatonic Estuary. According to references cited in previous testimony, such ships were of small to moderate size, including brigs, schooners, and the so-called "Boston Coaster" type. These ships did not require the large masts needed for the Royal Navy's "men o' war" (see table from Malone included in Appendix B). Instead, moderate-sized logs would suffice, logs of a size and weight which could be more readily transported down the Housatonic River from the Cornwall area.

I must also question Professor Collier's utilization of a quote from a canal promotion prospectus purporting to show the lack of log driving, as follows:

> "The same remarks are applicable, with almost equal force, to the heavy oak timber of this region. Because the line of this river has ever been at the extreme distance from established markets, its forests have been of little other general use than to furnish habitations and fuel for the inhabitants, and inclosures for their lands. Of course a large extent of woodland, on both sides of this river, borders the whole route; and while it might have furnished, to an almost incalculable amount, the materials for

shipbuilding, casks, and other manufactures on the seaboard, these materials have been procured on and near the Sound, and from New York and other places. Hence woodlands 30 miles from the sound are worth little, if any, more than new lands in Ohio." 17

As a matter of historic forestry practice, water transport is not utilized for heavy woods such as oak and other hardwood because of their unfortunate tendency to sink. Thus, such a mode of transport is suitable only for light softwoods such as pine, spruce, and hemlock to a lesser extent.

3. The Feasibility of Canal Construction Professor Collier refers to statements of John Herbst in his testimony concerning the feasibility of canal construction. According to Herbst:

> "any efforts to make the River navigable during that period were necessarily doomed to failure because of its subsurface geology."

Mr. Herbst is unknown to either the present or the past Connecticut State Geologists, nor is he listed in the Geological Society of America roster. However, it is interesting that the Farmington Canal operated for a number of years despite the physical liability of porous underlying gravelly soils throughout much of its course, perhaps belying Mr. Herbst's prediction of fatal problems which would be caused by subsurface geology.

Nevertheless, the proposed Housatonic Canal remains a mystery. As late as 1968, one would read the following:

> "Quite naturally these manufacturers turned their thoughts to the Housatonic valley as an outlet to tidewater. Rapids in the river presented almost too many obstacles, but a canal, perhaps, might be the solution. Canals were surely going to be the trunk lines of nationwide travel and transportation, so why, then, should not a canal along the Housatonic join the vast network? This was a good question: surely no proposal for a canal had so many elements of success already established in industry, trade, and population in its area.
>
> A civil engineer estimated that, for less than $6,000 a mile, a ditch could be dug parallel to the river all the way from Derby to the Massachusetts Line. At that point it would meet a connector canal which, in turn, would join a proposed Boston and Albany waterway. Three quick steps of action were taken: on March 12, 1822, there was a meeting of delegates from several interested towns; exactly one month later the Connecticut General Assembly was petitioned for a charter; and in May of that same year the Ousatonic Canal Company was formally incorporated. ("Ousatonic" often turns up as a variation on the spelling of "Housatonic" which, it is reported, was the Indians' way of saying "from the other side of the mountain.").

The canal project received handsome publicity. Engineering surveys were conducted, and subscriptions were solicited from the general public. There was a ringing note of optimism, but its echoes died out with the chatter in its own time limitations. Apparently the stockholders never called a meeting! Sometimes the brightest prospects grow dim for no evident reasons at all, and this seems to have been the case with the Ousatonic Canal."[18]

Summary

The Housatonic River is a moderate-sized stream rising in the Berkshire Hills of western Massachusetts and then twisting its way alternately through intervale and gorge to tidewater at Derby, Connecticut. In its character and in its history it is rather typical of many north-eastern rivers.

Used for millenia by Indians as an avenue of communication and trade, such rivers as the Housatonic later became used similarly by European traders and explorers. The next stage saw their use as a highway at first for driving softwood logs needed in shipbuilding and for lumber and later pulpwood for paper, a stage which lasted until only a few years ago on some New England rivers.

The Housatonic did not differ from this pattern. It had its period of fur trade with the local valley Indians, a period which was shortened only by an inability to compete with Dutch traders twenty miles away on the broad shipping highway of the Hudson River. In time, it also had its logging period, with the Hudson Valley again exerting a strong influence. Nevertheless the need of the Housatonic Estuary ship-builders and of valley towns for the pine logs of Cornwall fostered an industry of some size which seems to have faded by 1800.

1. Fellows, H. Boating Trips on New England Rivers, Cupples, Upham, p. 68.

2. Ibid., p. 119

3. Dewey, Chester A History of the County of Berkshire, 1829.

4. These are apparently the same figures or based on the same figures used in the testimony of Mr. Antonio Ferreira of CL & P and of Mr. Daniel Abramowitz of the FPC.

5. Verbal information from Mr. Roger Seamans, Executive Director, Farmington River Watershed Council.

6. See especially Atwater, "The History of the Colony of New Haven, Calder's "The New Haven Colony", Osterweis' "Three Centuries of New Haven", and "The New Haven Historical Society Papers" cited in previous testimony.

7. "Historical Records of the Town of Cornwall", Collected and arranged by Mr. Theodore Gold, 1904, p. 22.

8. The Timber Resources of Connecticut, U. S. Department of Agriculture, 1957, See Map "The Major Forest Types of Connecticut", pp. 18, 19.

9. Malone, Joseph J, Pine Trees and Politics, University of Washington Press, 1961, p. 131.

10. Ibid.,p. 64

11. Ibid.,p. 104

12. Ibid.,p. 53

13. Ibid.,p. 54

14.

15. Ibid.,p. 52

16. Holbrook, op. cit., p.27

17. "Considerations on the Practicability and Importance of Opening a Navigation to the Interim of the State by the Housatonic River", 1822, p.8.

18. Jacobs, Melanethon, "Ahoy on the Housatonic", Connecticut Historical Society Bulletin, October 1968, pp. 125, 126.

APPENDIX A

Enclosed are excerpts from the following book:

Holbrook, Stewart, "Yankee Loggers",

International Paper Co., 1961

to act as a brake on the runners. On steep hills a sanisher, one version of which was called a "Barringer Brake," was used. In the case of a single-sled, with the rear ends of the logs dragging along in the road, a bridle chain of big links was wrapped around a runner, another -- the tail chain -- around the trailing end of a log, and both dug deep to help brake the load.

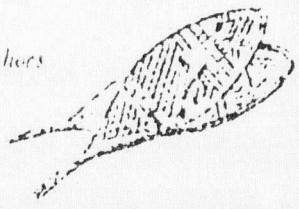
Who The Woodsmen Were

On the river itself or on a bank the logs were piled in landings, and there they waited till spring. When the ice went out, the landings suddenly swarmed with cant-hook men, quick, alert fellows, and the booming of rolling logs gave warning to farmers and townsmen down-river that the drive was coming. Sixty and more years ago there was no spring until the drive had come and passed. From the Raquette and the Schroon to the St. John and the Penobscot; down the Connecticut, the Androscoggin, the Kennebec; down 1,000 brooks and streams between went the logs to the mills.

For decades one of the great centers for milling long logs and pulpwood was the town of Tupper Lake, New York. Activity here began in the early eighties when John Hurd, a Connecticut Yankee, bought 60 000 acres of timber, laid out the Northern & Adirondack Railroad, and established headquarters and a ten-band sawmill for the Santa Clara Lumber Company, named for Clara Hurd, his wife. Other outfits were on the way, and soon or late came St. Regis, International Paper, Emporium, the Harwood Manufacturing and A. Sherman Lumber companies, and others.

Not before or since has such an industrial boom hit the Adirondack country. By railroad and by a complex of connected streams, rivers, ponds, and lakes, logs were landed at the plants around Tupper Lake, where a vast sorting gap and booming grounds segregated them. Then a fleet of tugboats put them within reach of the hull chains of the mills. Frank Eldred and George Bushey, International Paper veterans now retired at Tupper Lake, vividly

Snowshoes

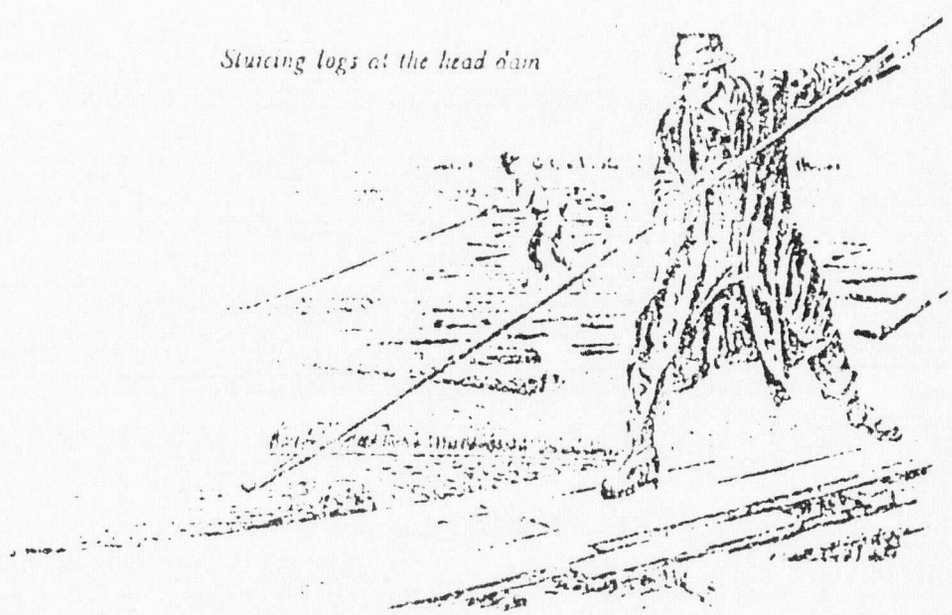


VIII · *THE LONG DRIVE*

THE Connecticut takes form as a river after it leaves Third Lake. Although a few other ponds empty into it, Third Lake is generally recognized as the source, the Headwaters.

About the headwaters of a river there is something of the mystery of Genesis. I felt it long ago as a boy when I heard men who had been there speak of the headwaters of the Connecticut. The word had magic. Though I desperately wanted to know, I did not think it proper to ask what "a headwaters" was like. I imagined it to be a sort of never-failing geyser, a lonely fountain spouting in one specific spot, and I let it go at that.

It seemed to me then that the bold fellows who had seen a headwaters were in the select company of great explorers. They had been to the Source, and the Source was of necessity in some remote place, wholly inaccessible, even unknown save to a few God-enlightened men. Beyond the Source there was nothing, nothing at all. Here you had arrived at Genesis, and you stood to look



Sluicing logs at the head dam

in awe upon the First Cause, where Adam drank, Eve bathed, and Deity moved over the face of the waters and commanded this stream to flow and gather together with other waters and be called the seas. And the evening and the morning were the third day . . .

Yankee Loggers

Years later I first came to see these headwaters of the Connecticut when I scaled pulpwood at Third Lake. I have since been back there many times. It is a fine spot to sit awhile and reflect on the people and places and events that have meant something in the life of this stream, which ranges the full length of Vermont and New Hampshire and then crosses Massachusetts and Connecticut to join Long Island Sound at Saybrook.

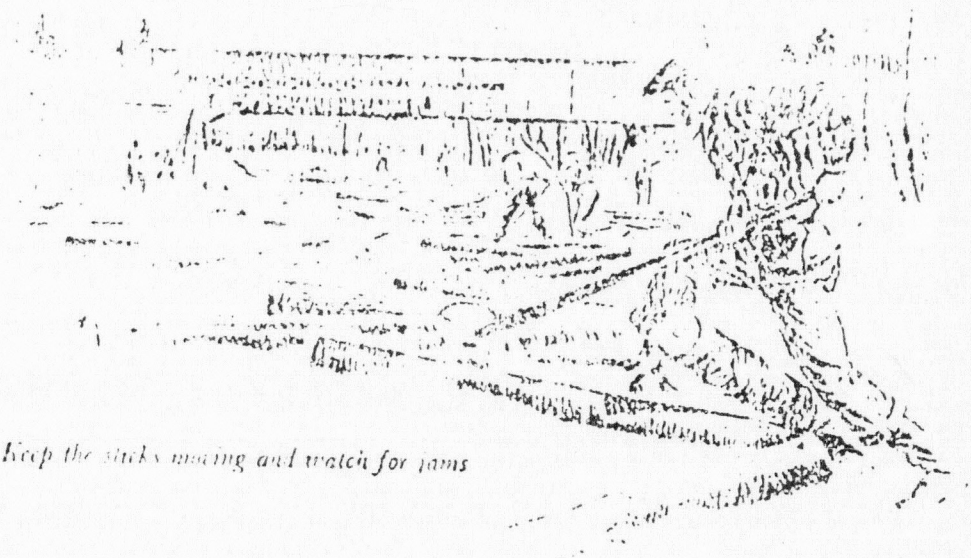
Where it leaves Third Lake, it is little more than a good brook, but with the aid of a head dam named for Win Schoppe, a famous boss of the drive, it carried the logs into Second Lake, then on to First Lake, where horse-powered headworks, and later gasoline tugs, moved them to First Lake Dam. Here almost in front of the enormous and ancient Lake House, the CVL's three-storied and gabled depot camp, the logs were sluiced into the wildly plunging river. From here on they were the nucleus of the main drive, the longest drive in New England.

Other drives might join it, one year or another, first from Perry and Indian streams in Pittsburg and from Halls Stream at Canaan-West Stewartstown; men were sent ahead to "fend out" at these places — to keep the sticks moving and to watch at the Beecher Falls and Canaan bridges lest jams occur. There was another reason for precaution against jams in this stretch: Canaan is on the border and was handy to two saloons known as "line houses." Delay of the drive here could present melancholy possibilities.

Above Canaan-Stewartstown one of the most dangerous spots had been passed. This was Perry Falls in Pittsburg, where the



A Woodsman's Tugs



Keep the sticks moving and watch for jams

river ran like the milltail of hell; there for many years you could read, cut in the bark of trees, the names of Charles Seymour and Dan Sullivan and Jake Regan, three lads who had tried to ride out this white water and found it too fast. Yet there were dangers still ahead too, and over the years the river took a fearful toll. So here, where the drive began to enter the Upper Coos meadows, the company thoughtfully put a few sets of grappling irons into each of the wangan wagons.

The wangan train was an impressive caravan of great long wagons hauled by four or six horses each and loaded with tents, food, stoves, baking sheets, cant dogs, pike poles, chains, and almost everything else that could be needed to put the logs into the ultimate booms, including a monstrous supply of 8 & 1, plug chewing and smoking tobacco. The wagons had long blue bodies, CVL painted on their sides. The harnesses were trimmed with bright brass and bedecked with tassels as gaudy as the Frenchmen's red shirts. The whole shebang was called the "Mary Anne." I do

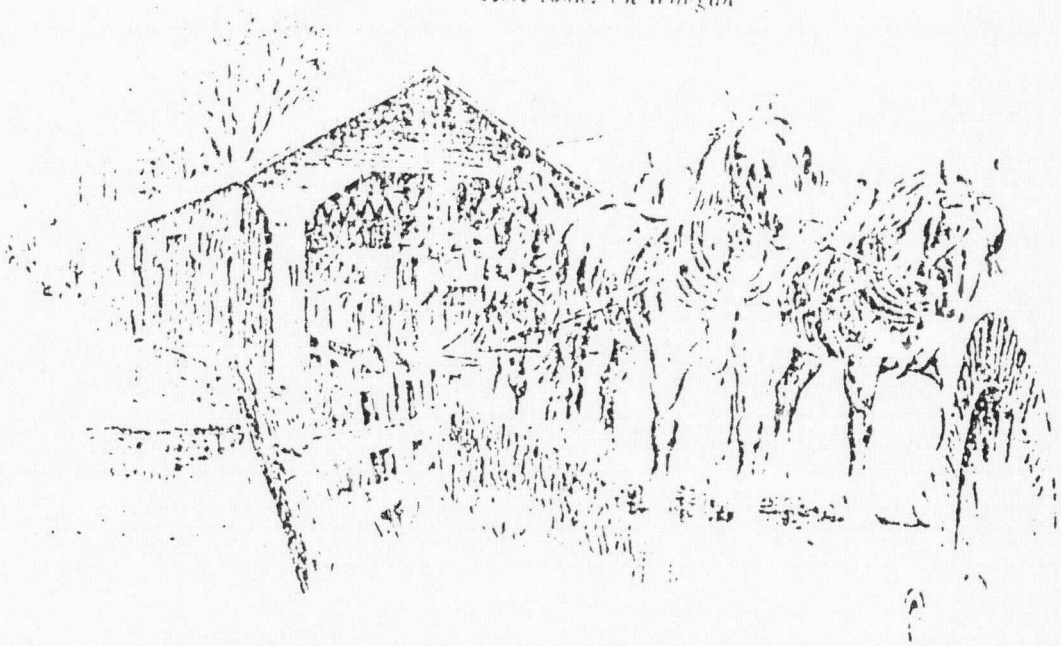
not recall any circus parade that impressed me more than the caravan of the drive.

Yankee Loggers

On occasion, and for reasons I never knew, the Mary Anne came down as a cookhouse tent on a raft; and one year she rammed head on against Colebrook bridge, sweeping everybody and everything on deck into the water. I heard that this floating Mary Anne was the idea of Tom Van Dyke. In any case, it did not become a usual thing.

The boss of the drive was always an important fellow. He had to be a man who knew some 150 miles of the river like the palm of his hand. The Smarts, Bill and Frank, and Win Schoppe were among the best. On them depended the delivery of from 45,000,000 to 55,000,000 feet of logs, short or long; and it had to be done when the water was right. A drive left high and dry stayed high and dry for a year. Two "high-and-dries" were likely to make a common mortal man out of an imperious boss of the drive.

Here comes the wangan



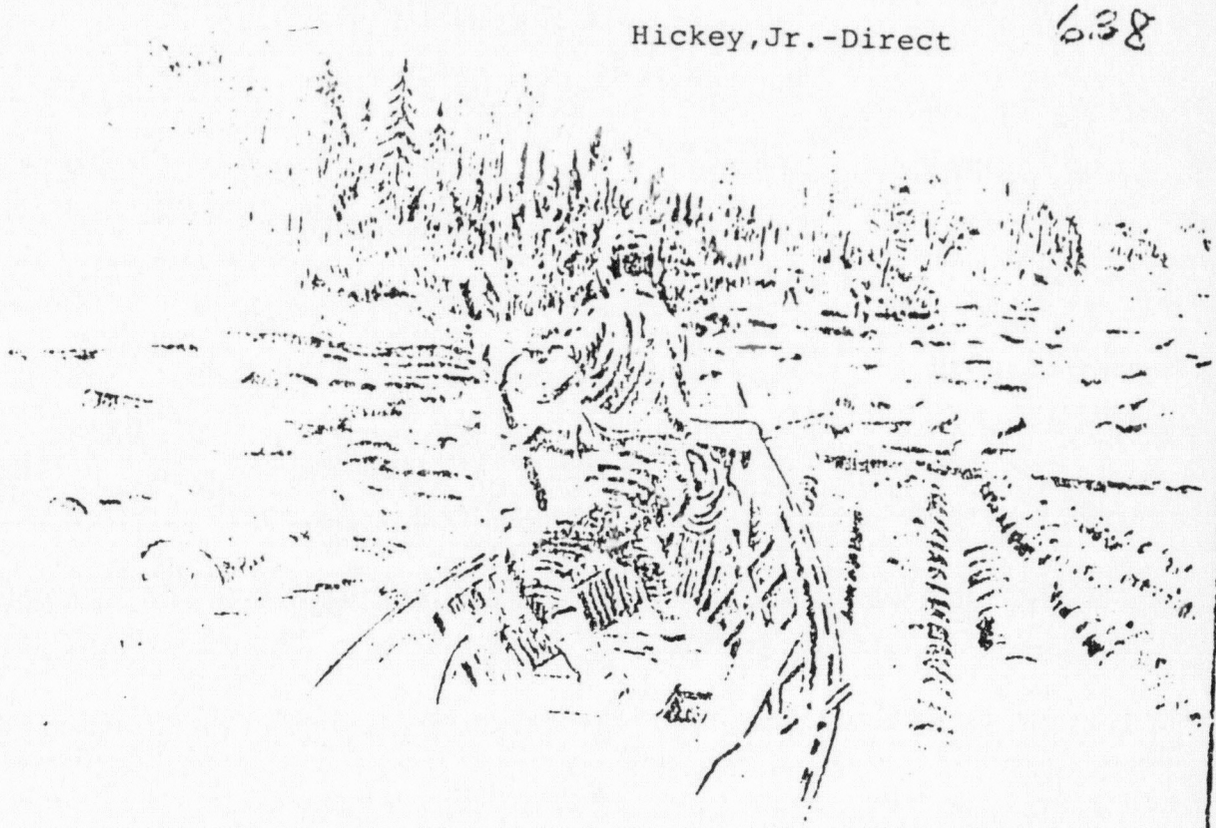
The Long Drive

As the main drive proceeded south from Canaan-Stewartstown, it was either joined or followed by others. The winter cuts might come in from Willard Stream, the Mohawk, Simms Stream, even from Blodgett Brook, and half a dozen more; and at North Stratford – Bloomfield, the Nulhegan and Paul Stream drives added notably to the mass of restless wood being herded toward the saws and the grinders. John O'Donnel of Bloomfield, who drove the 'Hegan eight seasons, started work there as a flagboy. Stationed on a high point above the stream, he had the job of watching the logs and running a flag up a pole to signal to the drivers below. "We had a sort of code system — to open or to close the gates, or maybe a wing was building up somewhere. All sorts of things," O'Donnel remembered, adding that the 'Hegan Telegraph could meet almost any emergency.

Perhaps the most dreaded water of the entire Connecticut was the Fifteen-Mile Falls, now deep dead water behind a dam. Though Logan's Rips at Fitzdale could be dangerous, the falls a few miles below were notoriously bad; and in the fifteen-mile stretch there were two spots responsible, legend had it, for a total of twenty deaths. One of these was Mulligan's Lower Pitch, the other the Seven Islands on the gravel beds at the lower end of the falls. Perley Hurd rated Mulligan's the worst spot on the Connecticut, but he said that nothing at all on the big stream could equal the speed and power of many places on the White River in Vermont, which brought the Channplain Realty's drive into the Connecticut farther south at White River Junction.

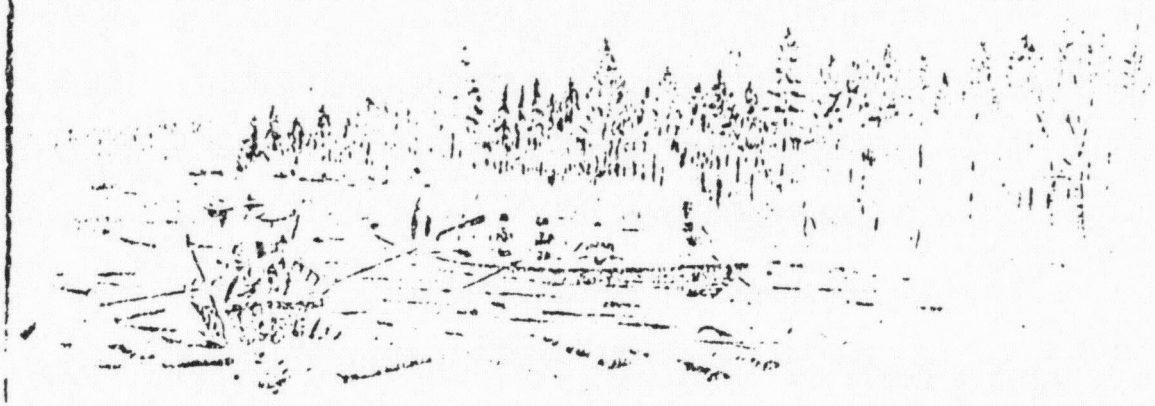
For many years the Champlain's cut on Phillips Brook arrived in the Connecticut by way of the Ammonoosuc, which also brought that company's cut on the Wild Ammonoosuc; the two streams, one running south, the other northwest, merged near Woodsville in the town of Haverhill.

[67]



It was the custom for many years to boom the river at Woodsville. Wells River and hold the main drive briefly, then release it gradually. This tended to prevent jams in the Ox Bow, the snaky stretch over the Haverhill meadows, and it also made less work for the floating rear, which came along behind the main crew to clear stray sticks from the banks and sand bars. This operation was known as "sacking the rear."

Among rivermen Woodsville won the reputation as the liveliest town between North Stratford and North Walpole. This was partly because it boasted a well-defined red-light district, plus an adequate number of saloons, but also because it and adjoining Wells River village comprised one of the busiest railroad centers in northern New England. It was in Woodsville, too, that one Ed Smith,



The bateaux of the main drive on the Connecticut reach Fifteen-Mile Falls

an obscure woodsman, leaped from the sidewalk to crash through a plate-glass show window of Sargent's store and embrace a pretty wax dummy dressed in silk hose and corsets. The rain of jagged glass left Ed unscratched. It was the height of his career, for the next spring he was caught by a log at Perry Falls.

After the logs had passed the Ox Bow meadows, it was a short run to Wilder, Vermont, where a part of the drive had reached its goal and was held for International Paper's Wilder mill. A dam now makes a ten-mile-long lake of the Connecticut above Wilder. Just below the town a Champlain Realty drive arrived from the White River, heading for the paper plant at Bellows Falls with logs from the Green Mountains in the Granville region. Eight head dams kept them moving until they entered the Connecticut. Bill Smart was often boss of this drive.

At the Bellows Falls plant of International Paper was a dam across the Connecticut through which logs were sluiced. One spring Bert Ingersoll, a noted woods and river character from First Lake, was swept over the dam, but he managed to catch hold

Yankee Loggers

of an iron peg set into the cement. With what must have been herculean effort, he pulled himself back up to the boom and there he stood, so it is recalled, a good five minutes, looking down at the watery hole below. One of the drivers shouted at him:

"Bert, do you figure going back down there?"

"No, by God," shouted Ingersoll, "I'm just looking at my fingerprints on that iron."

Probably because the drivers usually remained several days at Bellows Falls, the nearby village of North Walpole developed a tradition for hospitality. One veteran says there were eighteen saloons open there on occasion and never less than a dozen. It was also the place where Old Colorado, politely known as a camp follower, set up shop in a tent. It was her custom, for more years than men can remember, to trail the main drive from First Lake to Bellows Falls. When the logs were all in, she returned home again.

Below Bellows the remaining drive soon passed into Massachusetts and on to the end of the line, the sawmills and paper plants near Holyoke. This final goal, however, was commonly referred to as Mount Tom, because of the raciest geographic feature on the west side of the river.

Cleve Dore at Pittsburg recalls that he scaled logs in the old CVL sawmill at Mount Tom back in 1911. Two drives reached Mount Tom almost simultaneously that year as the 1910 drive got hung up. The mill sawed almost 80,000,000 feet in that one year. The sulphite mill at Mount Tom was probably the first mill in North America, and perhaps in the world, designed to run on sawmill leavings. Slabs and edgings from the sawmill used to be loaded into a cart holding about a cord and then pulled by a horse on a narrow-gauge track over to the pulpmill. This early Yankee venture in thrift is today an important conservation measure throughout the industry.



tracts for Swedish pitch

APPENDIX 8

A Royal Navy Masting Table

THE following table (from Adm. 49s/38) was sent to all dockyards by the Navy Board on April 18, 1743. It gives a good indication of the complex requirements of the masting trade for the Royal Navy.

	100 GUN SHIP						90 GUN SHIP						80 GUN SHIP						70 GUN SHIP					
Length (on gun deck)	175						168						161						155					
Breadth (extreme)	50						46						46						44					
Depth (in hold)	21						20	2					19	4					18	11				
	MAST			YARD			MAST			YARD			MAST			YARD			MAST			YARD		
	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.	Length Yds.	In.	Dia. In.
Main Mast	38	0	38	33	4	23	36	17	36½	31	21	22	34	35	35	30	2	29½	33	16	33½	30	2	29½
Top Mast	23	0	20½	24	3	15	21	34	19½	22	35	14½	20	32	18½	21	31	15½	20	8	18½	21	31	13½
Gall't Mast	11	2	11	16	22	9½	10	19	10½	15	31	9½	10	1	10	15	3	9	9	35	10	15	3	9
Foremast	33	20	33½	28	35	20	32	17	32½	27	23	19½	31	4	31	26	11	18½	27	28	29¼	26	11	18½
Topmast	20	25	[illegible]	21	2	13½	19	27	18½	19	32	12½	18	28	17½	19	5	12	18	7	17½	19	5	12
Gall't Mast	9	24	[illegible]	14	19	9½	9	17	9½	13	31	8½	9	1	9	13	3	8	8	35	8	13	8	8
Mizzen Mast	33	5	33½	27	21	13½	31	25	21½	25	1	14½	30	15	30½	25	2	13½	29	3	19½	25	2	13½
Topmast	16	0	13½	15	28	9½	15	13	12½	14	33	9	14	22	12½	14	12	8½	14	29	12½	14	12	8½
Bowsprit	23	12	30½	21	2	13½	23	12	35	19	32	12½	22	13	33½	19	5	12	20	15	30½	19	5	12
Topmast	8	27	8½	14	2	8½	8	13	8½	13	31	8	7	34	8	12	27	7½	—	—	—	12	27	7½
Cross Tack Yard	—	—	—	21	2	13	—	—	—	19	32	12½	—	—	—	19	5	11½	—	—	—	19	5	11½
Flying Jib Boom	16	24	14½	—	—	—	16	0	14	—	—	—	15	12	13½	—	—	—	14	24	12½	—	—	—

750

Hickey, Jr-Direct 6 4/4

mmrms-10

PRESIDING JUDGE: Mr. Kosloff, you will please give the reporter a corrected copy, and I should like one also.

Mr. McIntosh?

MR. MC INTOSH: I do not have any objection to the introduction of this testimony by Mr. Hickey, but you should understand, Your Honor, that it is not in a question and answer form.

PRESIDING JUDGE: I have not seen it, so I do not know.

MR. MC INTOSH: It is in a narrative form.

PRESIDING JUDGE: I will withdraw my question concerning "If you were asked the questions....", and I will let Mr. Kosloff's question and your answer as to whether the facts therein stated are correct stand.

MR. KOSLOFF: I have two more questions concerning this particular testimony.

PRESIDING JUDGE: Yes.

BY MR. KOSLOFF:

Q Mr. Hickey, are the opinions therein expressed your opinions?

A Yes.

Q Do you still hold these opinions?

A Yes.

MR. KOSLOFF: I would ask that it be copied in.

PRESIDING JUDGE: It has been done. Will you see that the proper copies are given to the reporter and to me.

as-11

MR. KOSLOFF: Yes.

PRESIDING JUDGE: Who is going to cross-examine?

MR. KOSLOFF: Your Honor, I have an additional group of questions, or rather, one more question and a rather lengthy answer.

BY MR. KOSLOFF:

Q Mr. Hickey, I hand you a copy of Professor Collier's rebuttal testimony, and I ask whether you have any comments concerning that testimony?

MR. KOSLOFF: Now before you answer -- to refresh Your Honor's memory, the last time I was present in those proceedings Mr. Collier had been cross-examined and there had been some questions concerning the source materials and the underlying facts and documentation for some of his conclusions, conclusions drawn both in his rebuttal testimony as well as testimony offered in addition to his rebuttal testimony at the time Mr. Collier was on the stand.

As a result, I have asked between that time and now for Mr. Hickey to examine those citations and to express his opinions and to discuss some of the findings which he made as a researcher.

PRESIDING JUDGE: Do you have this in prepared form?

MR. KOSLOFF: It was not in the form of written testimony. I have copies of it, yes. I can offer it, if you wish.

ns-12

PRESIDING JUDGE: Have you distributed copies of this to the parties?

MR. KOSLOFF: No, your Honor, I have not.

PRESIDING JUDGE: Shouldn't you have? It seems a little bit unfair to present them with something and expect them to cross-examine with respect to it at this point. I am going to allow it in, but I certainly think that as a matter of both courtesy and efficiency and practice the better procedure would have been to have distributed this in advance so that the parties could have been apprised of it and could have been prepared to do an appropriate job of cross examination.

As far as I am concerned, I do not think they can do a particularly effective job of assisting me unless they have it in advance.

MR. KOSLOFF: As I say, I do have copies of it. Before I put it in the record I would be happy to distribute it now.

PRESIDING JUDGE: Do you have any questions to ask this witness other than what is contained in his prepared rebuttal?

MR. KOSLOFF: The final set of answers I was going to elicit from Mr. Hickey concerned his response, particularly directed at his response to the testimony in rebuttal of Professor Collier.

PRESIDING JUDGE: That is apart from what he has in his prepared statement?

MR. KOSLOFF: Your Honor, if you recall, I believe that Mr. Hickey's testimony, his testimony in rebuttal, was filed in rebuttal to Professor Collier's direct testimony. Professor Collier subsequently prepared rebuttal testimony. This would be Mr. Hickey's way of answering that rebuttal testimony.

PRESIDING JUDGE: But my question is: You have a piece of paper in your hand which I expect you to ask to be copied into the record.

MR. KOSLOFF: Yes, Your Honor, I do.

PRESIDING JUDGE: Now are you going to ask him some questions which are not contained in that paper which you are holding?

MR. KOSLOFF: No, Your Honor.

PRESIDING JUDGE: What questions do you have for him?

MR. KOSLOFF: The only question I would ask would be that he comment generally in a narrative form, because I believe it would be the simplest way to address this for the record and either have him recite it or discuss it or ask that the document itself be copied into the record.

PRESIDING JUDGE: Is this in narrative form?

MR. KOSLOFF: Yes.

PRESIDING JUDGE: Would you ask him whether the statements contained therein are true to the best of his knowledge and whether the opinions are his own, et cetera, et cetera,

and have him answer. And then we will have it copied into the record.

MR. KOSLOFF: Very well, Your Honor.

The document has no title since it was really a working paper.

PRESIDING JUDGE: Is it a dated document?

MR. KOSLOFF: No, it is not. But for the record we can date it. We will give it today's date.

BY MR. KOSLOFF:

Q Mr. Hickey, I hand you a document dated January 7, 1975, consisting of 6 pages which is a narrative, or what I understand to be a narrative of your prepared testimony addressing the rebuttal testimony of Professor Collier. And canyou identify it, please?

A Yes, I can.

Q Are the facts stated therein true to the best of your knowledge and belief?

A Yes, they are.

Q the opinions stated therein are your own?

A Yes, sir.

Q And you hold those opinions as of today?

A I do. The only qualifier I might make is that there were a few small typos in this report which were not corrected by me until last night so that these small corrections are not in every copy of the document.

ms-15

BY MR. KOSLOFF:

Q Do they materially affect the accuracy of the statements?

A No, sir, with one exception on page five where the word "Not" has to be deleted from the last line. That could cause a certain misinterpretation of the available facts.

PRESIDING JUDGE: Would you distribute copies and subsequently see that the parties receive corrected copies. I presume that the copies you will distribute are not the corrected copies. These typos have not been corrected on these copies?

MR. KOSLOFF: Have they, Mr, Hickey?

THE WITNESS: No, they have not.

MR. KOSLOFF: I will distribute corrected copies to you and to the parties and to the stenographer.

PRESIDING JUDGE: Yes, but at the present time please distribute copies which they can use as working papers.

I request that the paper be copied into the record.

(The additional prepared testimony of Mr. Hickey, as mentioned above, is as follows.)

A. Yes. Subsequent to the earlier phase of these hearings, I received a copy of bibliographical references used by Mr. Collier. I have since reviewed Mr. Collier's rebuttal testimony as well as his sources. As a prelude to my remarks, I would like to say that my basic dispute with his analysis concerns his interpretation of the available historical materials, which in my estimation indicate the presence of limited yet significant historic navigation on the Housatonic north of Derby as well as its potential susceptibility for navigation.

I would like to address six areas discussed by Mr. Collier in his rebuttal statement.

1. Regarding his claim on the lack of feasibility of boat navigation on the Housatonic and specifically his interpretation of Fellows' "Boating Trips on New England Rivers" (see especially page 3, lines 31-33 and page 5, lines 7-9).
   a. I disagree with his contention that Fellows' book proves the non-navigability of the river and in reply will simply refer the hearing participants to page 1 of the Department of Environmental Protection Rebuttal Statement, dated November 8, 1974.
   b. I must also question his giving importance to the lack of frequency of boating on the river in the late 19th century (see especially page 3, lines 45-46 and page 4, lines 1-6). The issue here is not the frequency of boating use in the late 19th century when railroads and roads were available for transport but rather boating use both actual and potential in the pre-1800's and particularly pre-Revolutionary pioneering days when the Housatonic River like others offered a "natural highway" for trade and travel.

c. I feel Mr. Collier's references to man-made obstacles to navigation (see especially page 4, lines 13-14, page 4, lines 24-27, and page 4, lines 40-44) are not relevant as they refer to obstacles created after the main period of historic navigation on the river.

d. I feel Mr. Collier's references to natural obstacles to navigation such as rapids and falls (see especially page 4, lines 10-12 and page 4, lines 31-33) are not relevant as such natural features were and are an accepted hazard of river-boating and especially log-driving. I also feel that such obstacles requiring portaging at times fall within the FPC definition of navigable waters.

2. Regarding his claims on the lack of feasibility of or lack of evidence for log-driving over the falls at Canaan, I have a number of comments.

a. Concerning Collier's allegation that dams on the river would block log drives, I would simply like to make the following observations:

1. Could not such log drives have preceded the construction of the dams in question?

2. Is it not historically true that many established log drives involved either running the logs over an over-flowing spillway or sluicing the logs through the dam?

3. Could not Mr. Orcutt's testimony on flood-carried driftwood, logs, etc. quoted on page 7, lines 1-7 possibly contradict Mr. Collier's thesis in indicating evidence of log-flotation as far south as Derby despite intervening dams?

b. Concerning the damaging effects of would-be log drives on bridges (page 6, lines 12-15), I feel this statement is irrelevant. Many log drives have taken place on streams crossed by bridges

(see Holbrook excerpt in Appendix A of Department of Environmental Protection rebuttal testimony). In fact, ice-carrying spring floods were a major threat to such early bridges [illegible] frequently destroyed.

3. Concerning Collier's theory on the accidental flotation of logs (page 6, line 29 through page 7, line 8).

   a. I would suggest that the cited excerpt from Orcott's "History of the Old Town of Derby, Connecticut" could indeed be used as evidence to prove the susceptibility of the Housatonic River for such navigation.

   b. Concerning the reported lack of credibility of Starr's "A History of Cornwall, Connecticut", several comments are in order. Interestingly, Mr. T. S. Woolsey, a recognized professor of law at Yale and author on historic matters as well as an entry in "Who Was Who In America" states in the forward to Starr's book that Starr was "a born antiquary and a sound historical student". Also noteworthy is a reference to Mast Swamp in Cornwall in the Colonial Records of Connecticut (Volume IV, page 368 - 1977), giving further justification for Starr's use of the term.

4. Regarding Mr. Collier's assertion that there was no evidence of trade involving transport or exchange of goods at the Indian fur trading post at New Milford, I have a number of comments to make.

   a. The New Haven Colony was a theocracy of sorts with mercantile trading aspirations, aspirations which were never realized. A major item in the trans-Atlantic trade was fur, beaver pelts in particular, as cited in many sources listed in previous Department of Environmental Protection testimony.

b. To take advantage of the demand for furs, the New Haven merchants traded for furs with the Virginia Colony and with the Dutch at New Amsterdam, abortively tried to establish a colony in the Delaware Valley (where the Dutch ran them out) and closer to home, set up a trading post at the present site of Derby, Connecticut. The latter effort was subsequently expanded to include an upstream trading post at the Great Falls in New Milford, a point of portage and a center of Indian population. To quote Orcutt's "History of Derby", "the object of Mr. Wakeman in this work appears to have been the building of a trading post for the establishment of direct mercantile relations with the Indians in the valleys of these rivers and perhaps to secure trade with the Mohawk Indians also".

c. The inland penetration of New Haven traders toward the sphere of influence of the Dutch traders caused an angry reaction of correspondence detailed in VI of the "Records of the Colony and Plantation of New Haven". Thus Governor Eaton accuses Peter Stuyvesant of threatening to "burne or beate down our trading house" (page 515), an accusation denied by Peter on page 521. Further corroboration comes from "The History of New England 1630-1649" where Governor Winthrop writes "the merchants of New Haven had purchased some lands of the Indians about 30 miles to the northwest of them, upon Pawtucket River, and had set up a trading post. The Dutch governor made a protest against it, and set it to Mr. Eaton, claiming the place to be theirs" (page 328, Savage Edition).

d. Therefore, one may logically conclude that the serious-minded mercantile traders of New Haven set up a fur trading post at Goodyear's Island in what is now New Milford for the purpose of mercantile trading to buy furs from the Indians. Although I know of no copies of the records of this trading operation, it appears that both the New Milford and Derby ports remained in

operation for some years presumably serving their intended function. On the basis of his historical evidence and the materials cited in my prior testimony, I feel that New Haven traders did in fact obtain furs from Indians in the Housatonic Valley and then ship them downstream for eventual transshipment to Boston and thence to England.

5. Regarding historical evidence on the need for commercial ferry service on the Housatonic River, I feel that Mr. Collier has not directly addressed this aspect of navigational use. Search of the Connecticut Archives does provide abundant evidence of such use in the pre-Revolutionary era, as far upstream as Cornwall. Although the Marquis de Chastellux may have found the river easy to ford at Kent, it is interesting to note that William Chichester of Cornwall in 1743 requested and received permission to establish a ferry because "the inhabitants of Sharon cannot cross said river in their journeying to Litchfield --- without further travel of about 7 miles northward before they can cross said river and ten miles southward".

Similarly the Hubbell Ferry from Newtown to Woodbury functioned from 1730 to at least 1750. 3 miles below this ferry a Wait Himman also was granted a ferry in 1752 which apparently functioned until George Washington had a bridge built in 1778, presumably to expedite the inter-colonial flow of troops and supplies.

6. Regarding the potential improvement of the river for navigation, I again feel that Mr. Collier has not directly addressed the issue in his analysis. North of Derby the natural river before CL & P built its many dams did in fact pose problems for would-be navigators, problems which did not limit its potential commercial usefulness.

Yet it is interesting to note the optimistic tone of the many proposals made in the pre-railroad era for improving its navigational usefulness, beginning at least as early as the 1761 Report to the General Assembly of the "Committee on Means of Making Qusatunuck River Navigable". However, the most interesting is a 1803 proposal stating that "your memorialists further represent that (said) river --- with a proper attention and a degree of expense greatly inferior to advances for similar purposes in Europe and other parts of the civilized world may be made boatable from Derby to Massachusetts line at least, and with both a very small expense when compared with the importance of undertaking may be made navigable for flats as far as the Falls at New Milford." (Connecticut Archives, Trade and Maritime, Series II, Volume 1, Document 78).

MR. KOSLOFF: Thank you, Your Honor. My apologies for not taking care of this matter beforehand.

PRESIDING JUDGE: Very well.

MR. KOSLOFF: This concludes my direct examination.

PRESIDING JUDGE: Mr. McIntosh?

MR. MC INTOSH: Your Honor, as has been pointed out earlier, this material has just been submitted and was not available to us before a moment ago. We are going to want to look it over in order that we may frame any appropriate cross examination.

PRESIDING JUDGE: We are going to break for lunch at 12:30 and will take a fairly short lunch I think. Would you prefer to wait until after lunch to cross examine this witness?

MR. MC INTOSH: Give me one moment, Your Honor, to think about that.

PRESIDING JUDGE: Yes.

Mr. Telleen?

MR. TELLEEN: Your Honor, all parties have had both Mr. Woodhull's report, which Mr. Hickey has adopted, and Mr. Hickey's original rebuttal testimony for some time, and I think we would be able to cross examine on that. Perhaps we could proceed with that and break for lunch whenever the time arrives.

Over the lunch period we could all examine this.

PRESIDING JUDGE: I am amenable, if it satisfies Mr. McIntosh.

MR. MC INTOSH: I think that will be fine, Your Honor.

PRESIDING JUDGE: Then proceed.

CROSS EXAMINATION

BY MR. MC INTOSH:

Q Mr. Hickey, your prepared testimony in this proceeding has been put in in a somewhat unconventional form and because of that some of the questions I may ask you may have been answered in part at least earlier today of my material which has been presented for the first time. I hope you will forgive me.

First of all, are you familiar with the scope of the study submitted by Mr. Woodhull and the methods used by Mr. Woodhull in preparing that study?

A Precisely what do you mean by that, Mr. McIntosh? I am generally, at least, aware of the types of materials he looked at. As a matter of fact, I suggested that he follow certain specific lines of research as, for example, becoming familiar with all of the town histories in the valley through contacting the New Haven historical societies and at least in trying to contact all of the town historical societies in the valley.

As far as I recall, he did not have a great deal of success in contacting the town historical societies, but he

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was directed by me to follow certain lines of research. I hope that answers your question in part.

Q Did you direct Mr. Woodhull to include in his report evidence which would not support a conclusion that the Housatonic River had been used for navigation?

A I told him in his initial report to provide for us any information he could pro or con. Obviously, we were more interested in evidence which would perhaps point to any navigational use.

But for our own inherent professional self respect we were not looking to pervert the facts. We were trying to get a handle on what the facts apparently were.

PRESIDING JUDGE: Off the record.

(Discussion off the record.)

PRESIDING JUDGE: Back on the record.

BY MR. MC INTOSH:

Q Mr. Hickey, you have referred to an initial original report. Is that the report submitted into evidence?

A When I said "initial report," I would assume I was referring to the Woodhull report, yes.

Q To your knowledge did Mr. Woodhull submit more than one report?

A No, he did not, just working drafts

Q Did Mr. Woodhull understand when he undertook the study that the purpose of the study was to show that there

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had been navigation on the Housatonic River? Is that correct?

A He was told to look for evidence of navigation use in the valley.

Q When you speak of the valley, sir, you are referring to what valley?

A Navigational use on the Housatonic River, to be precise, the Housatonic Valley.

Q Mr. Hickey, to your knowledge, is Mr. Woodhull a trained historian?

A No, he is not.

Q Do you know if Mr. Woodhull had received any formal instruction in the conduct of historical research?

A That I do not know. I would assume that as a college undergraduate he has had no systematic training in that field. However, in his defense, I found him to be a very bright and very adaptable young man who made full use of -- who apparently made full use of the available facilities in the state library.

At my request, he did rely on the advice of some of the professional staff in the state library, professional staff who gave him certain lines of research which he should investigate.

Q Mr. Hickey, did Mr. Woodhull conduct any other historical research for you?

A No, he did not.

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Q So that your judgment regarding his qualifications as a researcher on historical matters is based upon this study; is that correct?

A Yes, sir, it is. But I must say again in his defense that my feeling about his inherent ability and his conscientiousness was based upon another job which he performed for me. He was a quick, bright and adaptable young man.

Q Mr. Hickey, are you an historian?

A No, I am not.

Q Are you a geographic historian, sir?

A By scholastic training I am a geographer. As an undergraduate at Clark I in effect had a minor in history and I have been, I think, exposed in school and out of school to a considerable amount of historical matters. In fact, I believe I may have had the privilege of having a great many of the professors that Professor Collier enjoyed while he was at Clark.

Q Do I understand, Mr. Hickey, that you have not received any formal instruction or training in the methods and procedures of historical research?

A Correct, sir. And I do not have a degree in history. I have a minor in history as an undergraduate.

Q Do you know what use Mr. Woodhull made of manuscripts available at the Connecticut State Library?

A Well, following the trail that he left, it appears that he spent at least some time looking at specific hand-drafted manuscripts in the Connecticut archives. I would say that in all honesty that the bulk of his work dealt with what a professional historian might call secondary sources.

But I do know that he spent some time in the so called archives at the Connecticut State Library.

Q Mr. Hickey, you have used a term "secondary sources," and how would you distinguish secondary sources from primary sources?

A A secondary source is when an author is building upon materials he has found elsewhere. In some cases it is rather obvious that historians have built upon the work of an historian who wrote a book on the same subject in 1875. And that historian in turn appears to have used almost the exact terminology another historian used in 1820. Perhaps the historian in 1820 actually went back to the primary sources, but there is this piggyback effect. And each one does tend to rely upon the work of his predecessors.

Q Do you understand the term "degrees of evidential credibility?"

(Pause.)

A Well, Mr. Mc Intosh --

PRESIDING JUDGE: Mr. Hickey, if you do not understand it, perhaps Mr. McIntosh will explain. Let us not go into something

you don't understand.

THE WITNESS: If the term has any specific legal or professional standing, no, I do not understand it, as such.

BY MR. MC INTOSH:

Q Mr. Hickey, you referred earlier to secondary sources and the use by one author of sources in the work of others. What reliance do you believe should be placed on the work of an author where he cites no authority for his statement?

A I do not think there is necessarily an easy answer to that question. Obviously, a book or report or article has far more credibility, if the author's report is very well documented.

However, I think there are some cases, particularly in earlier historic times, where the authors, I think, have relied, perhaps rather heavily, upon local tradition or local folklore.

I think it is also true, historically speaking, that when you are in a pioneering age that you are in an age when things are relatively unsettled, be it in the upper Housatonic Valley in probably the pre-1750 era, or in England in approximately the year 500 or 600 A.D., to pick another example. And there may not be a great deal of printed material you can rely upon. I believe that a great many professional historians are at least interpreters of history.

Or they have had to rely on tradition, folklore, hypotheses and conjecture.

Q Mr. Hickey, I understand that in the interim, since this hearing was adjourned last month, that you have had an opportunity to review certain materials which were cited by Professor Collier; is that correct?

A Yes, sir. I think I have had the opportunity to look at all of the principal sources which he has quoted, specifically the manuscript sources.

Q Do you know, Mr. Hickey, if you or Mr. Woodhull examined any sources which were not cited by Professor Collier?

A To the best of my knowledge, my rather frail memory, we did not. There may be one or two which are fairly obscure. But I think both Mr.Collier and myself have been relying upon the same relatively small nubmer of pertinent sources which appear to be available.

Q Mr. Hickey, I would like you to turn your attention now to a portion of the testimony of Mr. Woodhull relating to the trading post on Goodyear's Island. Are you familiar with that testimony?

A In general terms. Specifically to what point are you referring?

Q Specifically, I refer you to the second page of Mr. Woodhull's testimony.

MR. TELLEEN: Excuse me, Mr. Mc Intosh. You are now

speaking of Exhibit 19?

MR. MC INTOSH: Correct. That is Exhibit 19. If it would make it easier, I would be glad to refer to it as Exhibit 19, but I thought the witness would identify it more easily as Mr. Woodhull's report or study.

THE WITNESS: Yes, sir.

BY MR. MC INTOSH:

Q Page 2 of that document, line 7 of the statement, "Indian canoes could bring furs down the river from the north, following the pattern made famous by the Hudson Bay Company." To which river are you referring at that point, Mr. Hickey?

A It says that Indian canoes could bring furs down the Housatonic River from the north. I believe this was the case when the main trading post was at Derby, particularly where there was a major --

Q I think you have answered my question. I wondered what river you were referring to and you told me the Housatonic.

I would like you tonow tell me what is the authority for that statement regarding Indian fur trade on the Housatonic?

(Pause.)

MR. KOSLOFF: May I ask is this concerning footnote number 11 indicating the book apparently about the Hudson Bay Company? Is that the specific reference? I believe it is footnoted.

PRESIDING JUDGE: Are you addressing a question to Mr. McIntosh?

MR. KOSLOFF: Yes, I am.

MR. MC INTOSH: Your Honor, that is the exact question I addressed to the witness.

PRESIDING JUDGE: I think Mr. Kosloff asked what part of the Woodhull statement you were referring to.

MR. MC INTOSH: I was referring to that sentence, "Indian canoes could bring furs down the river from the north...."

Presiding Judge: Do you find that, Mr. Kosloff?

MR. KOSLOFF: Yes.

THE WITNESS: On page four of my testimony as of January 7, 1975 -- I will wait until you all have located it -- starting about 8 or 9 lines down under Item B, it says, "to quote Orcutt's history of Derby,'the object of Mr. Wakeman in this work appears to have been the building of a trading post for the establishment of direct mercantile relations with the Indians in the valleys of the rivers and perhaps to secure trade with the Mohawk Indians also.'"

That is one specific source.

BY MR. MC INTOSH:

Q Excuse me for a moment. You have just made reference to the material submitted today for the first time.

A Correct.

Q Will you wait just a moment.

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A And in this specific reference it is to the trading post at Derby which was the parent post to the post at Goodyear's Island.

(Pause.)

Q Mr. Hickey, I think we will return to this perhaps after lunch after we have had a chance to analyze the material which we have just had submitted today.

A Fine.

Q On page 3 of your rebuttal testimony -- this is the prepared rebuttal testimony --

A Yes, sir.

Q You state that evidence cited in previous submissions of the Department of Environmental Protection indicates that there was the presence of an active fur trade during the mid-17th century at the trading post at New Milford; is that correct?

A Yes. I think we do have a number of historical references which either expressly state this or at least imply this. Would you care to have me give a few examples?

Q Yes, I would like to know the authority for the proposition which you have advanced, Mr. Hickey.

A To mention a more recent source, a gentleman named Bradley wrote a book called "A Brief History of Derby." In 1935 he said, "The first white man who penetrated the wilderness seems to have been a fur trader from New Haven."

That is on page 9.

Q What did Mr. Bradley cite as his authority for that statement in 1935?

A That I do not know. He is probably at least a cursory source.

To get back to a secondary source, there is a book called "History of New Haven County," by Mitchell. On page 69 there is a reference to the trading post at Derby and it speaks of "fur trade with the Indians."

Q What is the authority for that statement, sir?

A That I do not know.

Again, on page 157 of that same book it says, "These second generation groups left the parent town" -- by which the author means New Haven --"for various reasons, and by various methods. Derby and New Haven, as a result of New Haven's commercial ambitions, the one as a trading post with the Indians and the other in connection with the farms and the iron works."

Q Again, Mr. Hickey, what is the authority for that statement?

A Again, I do not know. I will go back a bit if you would like me to get into some primary sources. I have looked at the "Records of the Colony and the Planation of New Haven."

Q Before you go further, are these materials which have been cited in the Woodhull study?

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A Most of these have. The two I am about to give now were not, to the best of my knowledge.

Q They were not referred to in your rebuttal testimony when you say at the top of page three, "Evidence cited in previous submissions of the Department of Environmental Protection....?"

A Okay.

Q I'm not trying to cut you off, but I want to make sure what we are talking about.

A I think in Mr. Woodhull's material that he was relying very heavily, if not entirely, on secondary materials, which in his estimation and in my estimation indicate that there was a fur trading industry of some scale which took place for a number of years more or less at the mid point of the 17th century, yes.

Q Mr. Hickey, what is the basis for an opinion that that fur trade, whatever its scale, utilized water transportation.

A Obviously, there was not problem at all in getting a boat up as far as Derby. There were some problems involved in getting a boat upstream beyond Derby, problems which I think we are all aware of.

There is at the very least a strong historical tradition that a gentleman named Goodyear poled a boat upstream as far as the great falls at New Milford. It is also

true that in one of the early deeds, more or less I think it is 1671, I think it is the Tomlinson deed, but I'm not sure of that. At the time some whites bought some land from the local Indians and it speaks of Goodyear's Island.

In my personal judgment, the Goodyear's Island spoken of in that deed is the Goodyear's Island where this Mr. Goodyear apparently had for a number of years his trading post.

In all honesty, we have no detailed commercial or housekeeping records of this trading post operation.

Q Mr. Hickey, you speak of "no detailed records," you speak of a tradition, but are there any records at all?

A Again, you go back to the so-called"Records of the Colony and Plantation of New Haven" where there was an exchange of correspondence between Governor Eaton of New Haven and Mr. Stuyvesant who had a comparable position with the Dutch Colony over the fact that the New Haven had established a trading post in what the Dutch considered to be their own territory. There is a certain historical disagreement as to whether the trading post in question was at New Milford or whether it was at Derby.

Mr. Collier might possibly interpret the evidence as saying that the trading post in question was in Derby. In my own judgment, the trading post which is spoken of in this exchange was at New Milford.

Q Mr. Hickey, without getting into the dispute as to where the trading post may have been located, what is the basis for an opinion that there was an active fur trade and that the active fur trade was carried on by way of water?

A I think that historically in a heavily forested frontier area where you had available streams, the customary procedure was to use the available stream, whether it be in the north woods of Canada or as in the Housatonic Valley on a far smaller scale.

It is my understanding -- and this is a phase of history on which I admit I cannot pose as an expert -- that both the Hudson Bay Company and the old Northwest Company had its crews go by boat all the way from Montreal on the one hand or the Hudson Bay, on the other, as far west as the Rocky Mountains and back by boat.

This involved a great many overland hauls, portages and whatever, but that was the customary way of getting the furs out. It seems to me that this would be a far more pradical approach than trying to cart these furs overland.

Q Mr. Hickey, you have stated that you have reviewed the materials cited by Professor Collier. Did you have occasion, sir, to look at the publication authored by a man named William G. Andrews entitled, "The Trading House on the Paugusset?"

A Yes, I did.

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you familiar with the statement in that document that the Indians went overland in their trade York area with Connecticut?

cuse me, Mr. Mc Intosh.

Pause.)

At what point in this article?

Q Page 385, I believe, is the citation.

A He does speak of a path or trail which apparently went from the Upper Hudson down to the Housatonic.

Q Yes, sir.

A I think it is quite possible and indeed quite probable that any Indians who may have been living along the uppermost Housatonic in Connecticut or an adjacent patch of what is now Massachusetts and the Upper Hudson, went over land because there are no streams of any size in that particular area.

I think once you get down much below the state line into Connecticut that you do have a stream of some size which I think would most likely have been used by the Indians in their seasonal migration.

Q Mr. Hickey, you refer in your rebuttal testimony on page three, the fourth and fifth lines, to Milford as a center for Indian population; is that correct?

A Yes, sir.

Q How many Indians did your study indicate were living

in the New Milford area at this time?

A There seems to be a great deal of disagreement as to the Indian population in the state anywhere. On the one hand, I think you have an author as, for example, DeForest who feels that the Indian population in all of northwest Connecticut was quite scant.

On the other hand, you have some historians and authors who feel that there was in fact a fairly substantial population by Indian standards. By that I mean possibly a total population of 1,000 perhaps, or perhaps as low as 500 or as high as 1500. I am not about to pose as an expert on Indian demography at that point in history. But I think by the standards of that time there appears to have been a certain concentration of population at the great falls.

This appears to have been in at least one author's mind sort of a key gathering point for a whole group of related clans.

Q Your testimony is, Mr. Hickey, that this was a center for Indian population and my question was what is your estimate as to the population? Do you have an estimate, sir?

A My own personal judgment is that I would be very surprised if there were more than 500 Indians in that area. It is quite possible that in and around New Milford there possibly could have been within a 10-mile radius as many

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as 1000 to 2000 Indians, at least seasonally. But I would say that a total of 500 is a pretty good estimate. Again, I am not an expert on Indians, so I'm not going to try to pretend otherwise.

Q The difficulty, Mr. Hickey, is that you have given testimony in this proceeding regarding the concentration of Indian population. What year are you talking about in your testimony when you refer to New Milford as a center for Indian population?

A I believe there were Indians in -- speaking now off the cuff -- I would say there were Indians there from at least 1600 to probably 1700 or 1715. I believe the last of the New Milford Indians moved upstream to Kent at that time.

Q When are the first historical records of this area, in point of time, when were they first prepared and maintained?

A You say the first historical records?

Q I assume the records were first prepared by the white settlers who came to this area?

A Right. It was in or about the year 1700. There were scattered whites here or there before that, but I would say roughly 1700 give or take a few years was probably the point.

Q What do those records indicate to be the Indian population of this area?

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A I do not recall. I believe there is some coverage of this in Orcutt's history of New Milford and Bridgewater. I believe there still were several hundred in the New Milford area at that point in time.

Q What evidence do we have of the Indian population before the records of the white settlers?

A A great deal of it seems to be tradition that this was the place where they had the wigwam of the chief of the whole tribe. Whether they were in fact a tribe related to the Wappingers on the Hudson seems to be questionable or whether they were the Potatucks or whether they were all the same tribe but were called by different names, this is an issue I have not been able to ascertain very clearly.

Q Mr. Hickey, we may return to this in a moment, but I would like to ask you some questions regarding the fur trade again. What types of furs were being traded at this time?

A The main type of fur being used -- the fur in greatest demand was apparently beaver. In one reference I have they also speak of otter, but the main type was beaver.

Q You have some authority, sir, supporting the proposition that there was an active trade in beaver and otter furs in this area of Connecticut?

A We have apparent evidence that the New Haven colony was engaged in the beaver trade. From what Ihave read, they

went so far as to trade with the early Virginia colony to get beaver pelts. They also tried to establish a trading post in the Delaware Valley to get beaver hides, but were chased out by the Dutch.

They also traded with the Dutch at New Amsterdam to get beaver hides, and they also established close to home their own trading post in the Housatonic Valley. The earliest trading post was apparently at Derby. There was also a branch trading post some odd miles upstream at New Milford, as far as we can ascertain.

How successful this trade was we do not know. My own guess is that it probably was not a very successful trade. The New Haven traders apparently could not compete successfully with the Dutch traders on the Hudson for one reason or another. Some say it was because of the greater ease of access to the Hudson and some say that it was because the Dutch were willing to sell firearms to the Indians and the New Haven traders were not willing to do so.

PRESIDING JUDGE: Mr. Hickey, forgive me if I make a suggestion. I find your recitation extremely interesting and I'm sure that everybody does. But we are laboring under the pressure of time. If you will please try to confine your answers to the questions. I don't mean you should say yes or no, if you feel that that does not correctly answer the question. I want you to feel free to give a complete

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answer, but do not go beyond that, if you will. I think that would help us to expedite this proceeding.

And while I have already interrupted, if, Mr. McIntosh, you will indicate to me the point at which you think a break would be advisable or appropriate, I will call a break for lunch.

MR. MC INTOSH: Thank you, your Honor.

BY MR. MC INTOSH:

Q Mr. Hickey, returning to the Housatonic Valley, do you have any information, sir, regarding the quantities of furs which were traded or the dollar amounts of the value of those furs?

A No, I do not have one specific fact on the total volume of furs which came out of the Valley.

Q On that same page three of your rebuttal testimony at line six I would like to read to you your statement there, "Thus, one must assume that the Housatonic River, at least as far upstream as the New Milford area, was an integral part of the trading economy of the the New Haven colony, a trading economy which ultimately reached from the wilds of far off Weantinock to the wharves of bustling London."

Mr. Hickey, what is the authority for that assumption?

A The authority for that assumption is that the New Haven colony was in the business of exporting furs. Most

of these were transshiped to Massachusetts Bay where they were in turn transported directly to England. Now as to specific quotes --

Q I do not want to challenge for the moment your statement that the New Haven colony may have been actively engaged with the fur trade. The portion of the assumption which is causing me difficulty is your statement, "One must assume that the Housatonic River, at least as far upstream as the New Milford area, was an integral part ...."

A Mr. McIntosh, I will be very candid, the available facts here are all too few. But it appears to be an historical fact that there was a trading post at Derby for some years until roughly 1655. There was also a trading post for some years even further upstream at New Milford. We are aware that the New Haven colony was involved in the fur trading business. The conclusion I reached is that if they had a trading post in the Housatonic Valley, if they maintained a trading post in the valley for some years, there must have been a certain financial return from it.

In other words, Mr. McIntosh, I do not think that they would have maintained a traing post in this area for any length of time unless it was at least reasonably profitable.

MR. MC INTOSH: Your Honor, I think this might be an appropriate place to take a break.

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PRESIDING JUDGE: Off the record.

(Discussion off the record.)

PRESIDING JUDGE: Back on the record.

We will recess until 2:00 p.m.

(Whereupon, at 12:30 p.m., the hearing was recessed for lunch to reconvene at 2:00 p.m.)

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AFTERNOON SESSION

2:00 p.m.

PRESIDING JUDGE: On the record.

As you were saying, as you were not so rudely interrupted?

Whereupon,

JOSEPH E. HICKEY, JR.

resumed the stand and testified further as follows:

CROSS-EXAMINATION (continued)

BY MR. McINTOSH:

Q. I would like to direct attention to the section of the Woodhull Study relating to the activity of log driving.

A. Yes, sir.

Q. Specifically page -- Excuse me. It is your own Rebuttal Testimony on the same subject, page 3 of your Rebuttal, the second Section entitled "Log Driving," beginning on the fourth line. I quote:

"There is evidence in previous submissions of the Department of Environmental Protection that log driving occurred in the pre-1800 era."

What is that evidence to which you refer?

A. I would say probably the main evidence we have to quote is Mr. Starr.

Q. What is the statement of Mr. Starr to which you refer as "evidence of logging on the Housatonic River, Mr.

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Hickey?

A. Excuse me a second, please.

Q. Certainly.

A. I don't have a very clean copy of this. But I believe it is page 34 of his book. It is page 13 of Appendix C of Mr. Woodhull's report.

Q. Are you referring to the reference to the mast swamp?

A. Yes. Excuse me.

If anybody here has a clean copy of Mr. Starr's material, I would find that very, very helpful. My Xeroxed copy is very, very hard to read.

(Counsel Kosloff places document before the witness.)

THE WITNESS: Yes, it is page 34. That would be the paragraph beginning: "The first step towards the settling of Corwall." That is part of it.

The next paragraph begins: "This great River also called the Pot," and so on.

BY MR. McINTOSH:

Q. Those two references are to the mast swamp of Cornwall?

A. That is correct.

Q. Turning to your rebuttal testimony, on log driving on the Housatonic River, you refer in that Section 2, on line 8, to a "substantial mixture of white pines," and on line 13 you

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refer to a concentration of needed pine lumber for masts.

Is that correct, sir?

A. Yes.

Q. What do you mean by "substantial" and "concentration"?

A. What I meant by that is that whereas the prevailing forest-type in the State of Connecticut is basically mixed hardwood, primarily an oak and hickory-type, with small but occasional significant concentrations of white pine, hemlock, and so on, in the Northwest part of the State, you had a perceptibly different mixture of trees. You had a lot more percentagewise, a great many more, white pines in this mixed forest; also a lot more of what are popularly called Northern Hardwoods, such as Birch, Maple, and so on.

But, specifically you had in and around the Cornwall area some pretty substantial concentrations of white pine.

As far as I can ascertain, this is the only place in Connecticut with a natural forest-contained concentration of this scale.

Does that answer your question?

Q Yes. I think you have given your opinion on this subject.

What is the authority for the opinion you just gave?

A Footnote No. 8.

If you look on the Footnote Page to this Report, Footnote 8 refers to a document called "The Timber Resources of

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Connecticut."

Within that there is a colored map entitled "The Major Forest Types of Connecticut."

Q What period does that map relate to; the period of time?

A. That map relates to the composition of the Connecticut Forest as of approximately, oh, say, 15 or 20 years ago.

Q Your reference --

A. After 200 years of very heavy cutting, re-cutting, and high-grading of the forest, which did tend to decrease the proportion of desirable species as white pine.

Q You gave an opinion, sir, that there was a "significant and substantial concentration of White Pine in the Housatonic Valley area." I asked the source of your authority for that position, and now you have said it is a map prepared in 1957 dealing with conditions 15 years earlier. Is that correct?

A. Excuse me, sir. I think that is a prime and irrefutable source.

There are also comments in some of the earlier histories which talk about the large white pines or concentrations of white pine which were at least 3 feet in diameter, which grew in great numbers in the Cornwall area. I believe one or two of those texts talk of white pine 5 and 6 feet in diameter, hard as that may be to believe. If I had time I could refer

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to some of these sources.

Q. You said earlier you reviewed the sources referred to by Professor Collier.

A. I reviewed the principal sources, yes; not every one.

Q. Exhibit 11, a Bibliography of the Materials referred to by Professor Collier, on page 9 there is reference to a work by Winer, "History of the Great Mountain Forest, Litchfield County, Connecticut," Yale 1955.

Are you familiar with that work?

A. No. I could not find that in the State Library.

I believe the Great Mountain Forest is owned by Mr. Childs, at the east end of Canaan Mountain.

Q. In the same paragraph on page 3 of your Rebuttal Testimony, entitled "Log Driving," beginning on line 12 of that section A, you state that "The natural place to look for a new source of supply was in the one area which contained a concentration of needed pine lumber for masts, arms and sprits."

A. Right.

Q. Do you have any evidence you can cite that this timber was actually cut?

A. The main source we have on it is Mr. Starr, or Reverend Starr, I should say.

Q. You have no other authority on this subject, sir?

A. As far as being a source that I feel I could stand

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behind, I don't think so.

We have already discussed material in that book, I think, by Carrigus, and whoever his co-author was. I think we all agreed that was more or less secondary, cursory, in nature, having been taken from Starr and other sources.

Q On Exhibit 11, page 5, there is reference to Lawrence Gipson's Bibliography of Jared Ingersoll. Are you familiar with that work?

A No, sir. I am not familiar with that.

Q In the same exhibit, page 7, there is a reference to the Ingersoll papers published by the New Haven Colony Historical Society. Are you familiar with those documents, sir?

A Only by name. I did not have the time to look into the Ingersoll papers, honestly.

Q Are you familiar with William Weeden's book, "Economic and Social History of New England 1620 - 1789," referred to on page 9, Exhibit 11?

A Yes. I believe that was one of the great many sources which Mr. Collier cited, which I reviewed. Yes.

Q Did you find anything in that work to support your statement regarding log driving on the Housatonic River?

A No. I also did not find anything which ~~in my~~ opinion contradicted the apparent evidence indicating log driving.

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Q. Did you find anything in that work relating to log driving on the Housatonic River, at all?

A. I did not.

Q. In your rebuttal testimony on page 3, the second paragraph, you refer to evidence rebutting Professor Collier's conclusion that no one made a living from navigation on the Housatonic River. Is that correct?

A. I believe so. Specifically where, on page 3?

Q. The paragraph immediately preceding the section entitled "Log Driving," it is the second paragraph, beginning "Concerning."

A. Yes. Thank you. I do have that.

Q. I asked you, sir, whether that is a correct summary of the position taken in that paragraph. You refer there to evidence rebutting a conclusion that no one made a living from navigation on the Housatonic River.

A. I referred to the fact, whereas Professor Collier stated nobody made a living on the river, I submitted in rebuttal evidence there were a number of commercial ferry operations on the Housatonic in the 1700s, all of which were authorized by the General Assembly.

Q. Perhaps we have a semantic problem. Are you suggesting in your testimony that ferrying operations constituted navigation on the river?

A. I am submitting this as one form of navigation.

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It was commercial navigation. Whether or not the Gentlemen in question used this as a full-time job, I have no way of knowing; as far as I am concerned it is up to the Judge to ascertain whether or not this type of commercial navigation, in fact, is relevant to the case. I felt I should bring it out.

Q You use the word "navigation." What do you mean when you use the word "navigation"?

A In this case I mean where a boat was used to get people goods, and animals, or whatever, across the river, for commercial ends.

PRESIDING JUDGE: May I interject?

Is the distinction or problem raised here whether movement across the river from bank to bank, as distinguished from up and down the river, constitutes "navigation"?

MR. McINTOSH: That is one of the issues we are developing right now.

PRESIDING JUDGE: Do I understand you correctly to say movement across the river -- is that what ferrying would be?

THE WITNESS: Yes, sir.

PRESIDING JUDGE: -- constitutes navigation?

THE WITNESS: It is at least, a possible form of navigation. I leave it to you, sir, to decide whether it is relevant or not.

PRESIDING JUDGE: Thank you. I wanted to be sure

I understood the issue.

BY MR. McINTOSH:

Q You refer to ferrying between Newtown and Southbury, is that correct?

A I believe so, yes.

Q It is in the same paragraph on page 3?

A Yes.

Q Will you tell us the geographic location of Newtown and Southbury in relation to each other?

A Newtown is on the west bank of the river, Southbury is on the east, or the northeast, bank of the Housatonic River.

Q Where did the ferry carry passengers and materials? Was the carriage from one bank to the other, sir?

A I would say obviously it must have been.

What the end destination of these goods was, I honestly do not know, whether they were possibly -- whether this was, then, part of an interstate flow of goods, I don't know, or whether it was an intrastate flow. I honestly do not know.

Q I was just trying to establish the movement of the boat in this case was from one bank of the river to the other?

A Yes, sir.

Q Was that occasioned by the fact the river was an obstacle to movement from one point to the other?

A That is correct; that the stream was either large

enough or deep enough that boat transport apparently was required at a number of points along the river as far upstream as Cornwall.

Q. You have no information regarding whether these ferrying operations were the principal livelihood of the people who ran them?

A. I have no personal information; no.

Q. You have no information regarding the volume of these ferrying activities or the amount of money involved?

A. I have no personal information, no.

Q. By "personal" I do not mean you observed it yourself.

A. I know what you mean.

Q. No reference to records, or anything else?

A. If there are any records of this, I have not personally come in contact with such records.

Q. That would include Mr. Woodhull, as well, would it not?

A. That is correct.

Q. I would like now to direct your attention to the materials that were submitted this morning, your testimony responding to rebuttal testimony of Professor Collier.

Referring to the first page of that material, Section 1(b) regarding boating on the Housatonic River, you refer to "pre-revolutionary pioneering days" and the activity during that period. Is that correct?

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A. That is correct.

Q. What evidence do you have of such boating activities during that period, sir?

A. On page 28 of a book entitled "Two Centuries of New Milford, Connecticut," there is a fairly brief quotation I would like to mention. I quote:

"After a short stay at the old Tyrell house, the wedding journey was resumed, up the 'Great River' to the Weantinoug County. The 'House Plenishing' demanded by the customs of those days, had been furnished by Josiah Rossett, and had been securely packed in a south boat to be rowed and polled up the river, this being, at that time, the only means of conveying heavy articles to the settlements above."

Q. When was that account written, sir?

A. The date on the book is 1907.

Q. What is the date of the event that it purportedly is being written about?

A. The date in question -- I do not have the book available, obviously, but only this brief thing -- I would say would be approximately 1700 to 1710.

Q. What is the authority cited by the book written in 1907 for an event 200 years earlier?

A. I don't know. I only say this was done under the preparation by the historical committee, by various citizens of

New Milford.

Q This was prepared in 1907?

A That is correct.

Q And it cites no authority, is that correct?

A To the best of my knowledge, it cites no authority.

I do not have a reproduction of the page in question. I have an excerpt from the page in question.

Q On the following page of your testimony submitted today, Mr. Hickey, in Section (c) you refer, at the end of that comment, to "... the main period of historic navigation on the river."

To which period are you there referring?

A As far as I could ascertain the main period of historic navigation, even in terms of floating logs, presumably would be prior to 1800.

When you get up to -- When you are dealing with the upper part of the Housatonic River, in Connecticut, you are quite possibly dealing with pretty revolutionary -- you are dealing with the pre-revolutionary period. And I think most of the dams and other obstacles which are referred to here were in large part probably post-1800 or post-1820 or 1825.

Again, I am happy to defer to Professor Collier on that.

Q Lest there be an apparent gap in the record, a few moments ago we discussed pre-Revolutionary pioneering days, presumably prior to 1776. Now you are referring to the main

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period of historic navigation pre-1800.

Was there some significant amount of navigation during the period 1776 to 1800? Is there something in there we should be talking about?

A. I have no personal evidence of any navigation in this period. My educated hunch is there could have been some log driving until 1800, and possibly as late as 1820.

As far as any use of the river for even small boats, the last upstream boat navigation reference that I have is to the Cornwall ferry operation, which is roughly 1750, or so.

PRESIDING JUDGE: Excuse me. May I interject?

MR. McINTOSH: Surely, Your Honor.

PRESIDING JUDGE: You used the term "upstream navigation." Were you referring to an area of the stream, or were you distinguishing between movement upstream and downstream?

THE WITNESS: I was referring to a geographic stretch of the river, sir.

PRESIDING JUDGE: In which you might have movement both ways? Or would that be only, if logging, downstream, I presume?

THE WITNESS: Presumably because of the current there would be more tendency that any boating which was done, whether the floating of rafts, flatboats, whatever, for even short inter-town travel, it would probably be downstream.

PRESIDING JUDGE: Thank you.

MR. McINTOSH: Your Honor, I do not think Connecticut Light and Power Company makes any argument that the downstream section of the Housatonic River, certainly below Derby, was not navigable, certainly a considerable amount of navigation.

THE WITNESS: When we talk of "upstream" and "downstream" perhaps we should specify what we mean. I have been rather loose, perhaps, in my definition.

When I speak of "downstream" I think of the stretch below the Great Falls, at New Milford.

"Upstream" obviously would be upstream of the Great Falls, where navigation would get progressively more difficult with the possible exception of log driving.

PRESIDING JUDGE: Your "upstream" area, then, includes an area above Derby?

THE WITNESS: No, sir. When I say "upstream," it would be from Milford to the Massachusetts line, which is approximately half the mileage between Massachusetts and Derby. The other half would be, in my definition, downstream.

PRESIDING JUDGE: Therefore, Mr. McIntosh, your view of downstream does not coincide with the witness' view of downstream, is that correct?

MR. McINTOSH: It is a term I have not used, Your Honor.

PRESIDING JUDGE: You are not contesting, you say. What area are you not contesting? Are you not contesting the area below Derby?

MR. McINTOSH: Yes, sir.

PRESIDING JUDGE: All right.

MR. McINTOSH: Where none of these dams are located.

PRESIDING JUDGE: I understand.

BY MR. McINTOSH:

Q Turning to page 2 of the materials which were first circulated this morning, in Section D you state: "I also feel that such obstacles" -- not continuing the quote, but these are obstacles to navigation. Continuing with the quote -- "requiring portage at times, fall within the FPC definition of navigable waters."

You have already disclaimed your expertise as to what constitutes "navigability"?

A I don't know that I have disclaimed it.

On page 1 of my Rebuttal Testimony I took an excerpt out of the FPC definition of what appears to be navigable water. And as I interpret the FPC definition of "navigable water" it states such waters may have interruptions between the navigable parts, such as falls, shallows, or rapids.

I am not an expert, I am not an attorney. But I have to draw my own conclusions from obvious language of that kind.

Q Your next point on page 2 relates to the feasibility of log-driving over the Falls of Canaan. Is that correct?

A Yes.

Q In that portion of your testimony you refer to construction of dams on the Housatonic River, and the time when these dams were constructed.

What date was that?

A The date when these dams were constructed?

Q Yes, sir.

A I think Professor Collier could answer that better than I can. My educated guess is that very few, if any, dams, were built on the main stem of the river prior to 1820; possibly one or two as early as 1800. But I would be quite surprised to hear otherwise.

Q Then your observations in this portion of your testimony are not based on any positive evidence regarding construction of dams on the Housatonic River?

A I am frankly raising some speculations over the point made by Professor Collier.

Q On the following page you refer to Starr's work "A History of Cornwall, Connecticut," and refer again to the mast swamp in Cornwall.

I may have asked this before, but what authority did Starr give for his assertion that there were masts cut in that swamp?

A I could find no direct historic source for Mr. Starr's assertion. For one thing, we do know, based on this -- based on one reference in the colonial records of Connecticut, that

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there was, in fact, a locally called "Mast Swamp" in Cornwall, and according to local tradition, the swamp was named after the pine trees which grew in great numbers within the swamp, and which apparently were cut, and in some cases, at least, floated downstream for the shipbuilding industry in the estuary.

Again, the term "mast swamp" is an intriguing one. I can think of only two possible definitions of the term "mast." One would be an area of evergreen woods which could be utilized for the purpose of shipbuilding. The other would be an area of oak woods where the acorns dropped on the ground could provide a food for hogs, wild or tame, food which is called "oak mast."

It so happens the locale in question happened to have a concentration of pine trees and not oak trees. So, again, I drew the logical conclusion that the local tradition, on which Starr apparently relies, was at least in part correct.

Q Turning your attention now to page 4, you again refer to a "trading post" in Section B, on page 4, in the tenth or eleventh lines. Is this the Goodyear's Island Training Post, again?

A Yes.

Q The one we discussed at some length earlier?

A That is correct.

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Q When was that founded, sir?

A Probably around -- by 1646.

Q How long was that trading post active?

A Probably it was in operation for no more than 10 to 12 years.

Again, nobody has the answer.

Q May I take it from what you have said that at least in your opinion the evidence you have looked at, it indicates the trading post discontinued its activities at least by 1660?

A Yes.

Q On the fifth and sixth pages of the material submitted this morning there is reference to "potential improvement" of the Housatonic River for purposes of navigation.

Is that correct, sir?

A Yes, sir.

Q And you refer to reports to the General Assembly of the State -- I guess the Colony of Connecticut, then to the State of Connecticut, regarding proposed improvements to the River.

Is that correct?

A That is correct, sir.

Q Do you know how many such proposals were made?

A I believe in the range of five or six, at different times, for at least the improvement of at least certain parts

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of the Connecticut River.

Q I believe you misspoke, sir. The Housatonic River?

A Excuse me for that slip. When you do two things at once it does not always work.

In 1795 there was a proposal for a canal permit on one stretch of the river. There was a 1761 report by the Committee on the means of making the Housatonic River navigable.

There was the one specifically mentioned in my testimony, in 1803. There were proposals as late as, I believe, 1820.

Without looking at all my references, I can not give you an accurate count, but there were considerable proposals, and in most cases these appeared to be quite positive, even when you try to distill out the engineering facts from whatever Chamber of Commerce input may have been -- or promotional input, which may have been a part of that.

Q These various proposals to make the Housatonic River navigable, were any of them ever implemented?

A No, sir.

Q Every one of them ended without successful implementation, the River was never made navigable in accordance with any of these schemes?

A That is correct, for apparently a great many reasons. One case, which I am sure Professor Collier knows of, because the people who collected the funds from a lottery

either went to their eternal reward and/or absconded with the results of the lottery --

PRESIDING JUDGE: It amounts to the same thing, does it not?

THE WITNESS: Well put, sir.

In another case, if I may refer to my Rebuttal --

BY MR. McINTOSH:

Q Mr. Hickey, you have answered that none of them were ever implemented. The reasons for the demise I don't think are significant to my question.

A Sir, they might be in terms of whether or not this stream is, or was, susceptible to being made --

PRESIDING JUDGE: You better leave that to your lawyer to pick up.

THE WITNESS: Excuse me, sir.

MR. McINTOSH: Your Honor, I have no further questions.

PRESIDING JUDGE: Thank you.

Mr. Teleen?

Mrs. Boikess?

MS. BOIKESS: I have nothing.

MR. TELEEN: I have just some brief questions.

BY MR. TELEEN:

Q Mr. Hickey, I have just a few questions.

A Yes, sir.

Q On page 3 of Mr. Woodhull's Report, which is Exhibit

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19, I believe, at the top the statement is made: "Masts were brought to New Milford and Derby in this manner from as far north as the towns of Great Barrington and Sheffield, Massachusetts," and I believe Mr. Woodhull cited Dewey's work, I guess more appropriate "Field's work" on the County of Berkshire.

A Yes, sir.

Q Is it not true that while small -- while logs were floated as far north as Great Barrington and Sheffield down to towns such as New Milford and Derby, that Field's book and the part written by Chester Dewey, does not refer to "floating of masts" from that far north?

A Sir, you are correct. This is a partial error in Mr. Woodhull's testimony, and one I do not catch.

That is correct. There are apparent references to masts being floated down from as far north as the Cornwall area. I will not stand behind the assertion that logs -- that mast logs were floated downriver from Berkshire County.

On the other hand, Mr. Field and -- at least Mr. Field, and I believe some testimony you and your Staff were able to recently uncover, apparently were able to find that logs of perhaps a smaller size were floated downstream from Berkshire County into Connecticut.

That was a slip on my part.

Q In terms of the ferry between Newtown and Southbury,

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we established that the ferry went from bank to bank, as other ferries have over the years, on the Housatonic.

Were those two points on the opposite banks directly opposite each other, or was one at all north of the other?

A. I honestly do not know that.

PRESIDING JUDGE: Are both those towns still in existence?

THE WITNESS: Yes, sir.

PRESIDING JUDGE: So a map would show whether they are directly opposite or in a diaganol line?

THE WITNESS: Yes, sir.

I might add as an interesting point that I did not have time to verify that both the Hubbell Ferry and the Hinden Ferry are both more or less on the corridor which was followed subsequently by a major highway which became known as U.S. 6, which was a fairly significant road in even fairly early times.

One might prove that one or both of those ferries were tied into that major trade corridor.

BY MR. TELEEN:

Q. My question has to do with whether or not any of the ferries that you know existed traveled any distance at all north and south to get from bank to bank as opposed to going directly across. That was the thrust of my question.

A. I am sorry, I do not know.

Q. Turning to the various appendices attached to

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Exhibit 19, which is Mr. Woodhull's testimony, Appendix A starts, and went through many pages of quotations where apparently Mr. Woodhull has listed the titles, authors, dates, and quotes language from those works -- apparently he did this rather than photocopying pages and providing them.

As far as you know, these are accurate and complete?

A. To the best of my knowledge, I have reviewed every one of these citations here. There may be one I overlooked, but I am not aware of any.

PRESIDING JUDGE: Did you check the quotations for accuracy? Is that correct?

THE WITNESS: Yes, sir.

In general terms. I do not say it in all cases word for word where they appeared to be accurate.

BY MR. TELEEN:

Q. Mr. McIntosh spoke of a quotation, I believe Mr. Woodhull quoted -- I am sorry, it was one of the books Mr. Woodhull used, from which Mr. McIntosh quoted a passage concerning overland travel by Indians.

Did I understand correctly your answer to be, as you understood it, that route involved a distance point-to-point where no river flowed, and if an Indian wanted to get from Point B overland travel was required?

A. Yes, sir. Apparently at least one school of thought is that there was substantial Indian migration and travel

is24 back and forth between the upper Hudson and what is now Berkshire County, and perhaps the northwestern part of Connecticut.

In order to accomplish travel along that corridor the Indians in question would have to go either wholly or in large part overland, yes.

Q And this was travel from the Hudson corridor to the Housatonic corridor which parallels the Hudson to the east?

A That is correct.

Q Just to clear up something, Mr. Hickey, in the discussion of the Reverend Starr's work and a book by Sterry and Garrigus, you suggested that Sterry and Garrigus relied on Reverend Starr.

Was it not established in previous hearing sessions that the Sterry and Garrigus book contained no indications at all as to what sources they relied on in writing their book?

A I do not believe I was in attendance at the hearing, if that is so. I think I took Mr. Collier's assertion that they had relied on Starr as being the gospel.

Q All right. I just wanted to see what you were thinking of.

Mr. Hickey, you spoke of the Great Falls at New Milford.

Is it not true there are other falls which in other writings are called "The Great Falls," and do they not exist near Canaan, near the Massachusetts line?

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A That is correct.

Q So there are at least two significant Falls on the Housatonic in the State of Connecticut?

A I would say there are two significant falls called the "Great Falls" on the Housatonic.

Q Both called "Great Falls"?

A Right.

There are two really major falls, or cascades, on the Housatonic, and a smaller one, the Falls at New Milford. However, the Great Falls at New Milford was not, I think, a truly major falls, or a falls-cascade complex comparable to those found on the Bucls Bridge and at Canaan.

Q Would you say the Great Falls at Canaan, which I believe is above Cornwall --

A That is correct.

Q -- Canaan is above Cornwall?

A That is correct.

Q Are those the largest of the falls on the Housatonic?

A I believe, sir, they are; yes.

Q In terms of your discussion in your testimony and elsewhere of Dams and Dam construction, would it be fair to say those Dams we think of from our perspective at this time as existing on the Housatonic, are the large hydroelectric Dams built by Connecticut Light and Power or its predecessor in the last fifty or sixty years? Would you agree those

Dams are far larger and create far greater damage than the more numerous and smaller dams which might have been built 100 or 200 or 250 years ago for water power purposes?

A. Yes. I would say most of the earlier dams were built not so much for direct hydro power purposes, but built probably to provide power as part of a manufacturing operation. In large part, I think they were found along the upper half of the Housatonic River.

Q. Would those tend to be rather small dams in terms of height?

A. Based on my experience around New England, particularly in Connecticut and Massachusetts, I would say probably most of them were no higher than 20-to-25 feet at the absolute maximum; a few perhaps might be the exception to the rule. But I am speaking of the cut stone dams which were typical of the earlier phases of the industrial revolution.

Q. During a time of Spring flood, or freshet period, would the water flowing over such dams -- would the height of water flowing over such dams be significant?

A. I would assume this is the case. I think a prime example in Connecticut on a larger scale would be the existing dam at Enfield, which is a spillway dam. And there is enough water in that in the Spring, that it does pose a hazard to people in small boats. Logs and boats could very easily be washed over the spillway.

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MR. McINTOSH: Your Honor, may the record be clear that the dam referred to by the witness now is not on the Housatonic River but is on the Connecticut River?

THE WITNESS: Yes, sir. I think it might be somewhat comparable to the Dam. I think at Shelton there is again an open spillway dam. If I am incorrect I would like to be corrected.

BY MR. TELLEN:

Q Thank you.

In terms of your use of the Reverend's work and what authority Starr might have relied on, I believe as part of Exhibit 19, photocopy pages of Starr at page 34 --

A Yes, sir.

Q -- is it not true that on page 34 of Starr's work he has there a quotation which suggests authority, or suggests some authority?

A Unfortunately the print in mine leaves much to be desired. If I could rely upon --

Q Better printing?

A Right. My eyes are not what they used to be.

Q Perhaps I can rephrase the question.

Is it true the Reverend Starr, on page 34 of his History of Cornwall, quotes from a Deed?

A Yes, sir, he does.

Q And in fact sets off language from that Deed?

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A Yes, he does. He says: "As of 1716," and there is a quote, "the mast swamp, so-called, about 2-1/2 miles beyond the Deep Brook," and so on.

Q So when Starr spoke of the mast swamp he actually used language from the Deed of, I think you said "1716"?

A Yes.

Q Which used the term "mast swamp"?

A Yes, sir. Apparently.

Also it mentions, below there is a quote: "To pass and re-pass at any and all times with rafts, trees, logs, what else soever ..."

Q That is part of the quoted deed?

A Apparently.

Q One last question, Mr. Hickey.

The Canal proposals you talked about, you said they never resulted in canals -- in a canal being built, either parallel to the Housatonic or making use of parts of the Housatonic.

Was it the intention or purpose that those canals support boat traffic which would travel both north and south and carry specific goods such as bales and crates, and so forth?

A Yes, sir. That is the understanding I have gotten from looking at some of the manuscripts. They spoke of "flats," meaning flatboats, or "bateau," and so on, and spoke of what they would charge for a boat going down loaded with goods, and, I believe, what they would charge for a boat

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returning without goods -- I think.

Q All right. But the intention was that specific traffic could be carried by such canals, both north and south, carrying goods for trade, and such canals never came into existence, although people hoped they would, in terms of proposing their construction?

A Yes. That is my interpretation of the language I have read. Yes.

MR. TEEEN: Thank you. I have no other questions on cross-examination, Your Honor.

PRESIDING JUDGE: I think we can stand in recess for ten minutes.

(Whereupon, at 3:20 p.m. a recess was taken to 3:30 p.m.)

PRESIDING JUDGE: Let come to order.

Mr. Kosloff, I understand you have no redirect.

MR. KOSLOFF: I do not have, Your Honor.

PRESIDING JUDGE: Mr. McIntosh?

BY MR. McINTOSH:

Q You referred to "Great Falls" so-called, at Canaan, and their relationship to the town of Cornwall. I believe you said they were upstream from Cornwall.

A That is correct.

Q You spoke of falls at New Milford, sometimes also called the "Great Falls"?

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A. That is correct.

Q. What is their relationship to Cornwall?

A. They are in the southern part of New Milford, downstream.

Q. You also spoke of other falls, or cascades on the Housatonic River. Where were they, sir?

A. There is a large complex of falls and cascades at what is known as Bulls Bridge, where CL&P has a hydro power project. This is in Kent, up ab out eight miles upstream from downtown Milford.

Q. In relationship to Cornwall, it is---

A. Downstream.

Q. In order -- going upstream as to downstream, you have the Great Falls at Canaan, you have Cornwall, then the Bulls Bridge Cascades, or Falls, then the so-called "Great Falls" at New Milford?

A. That is correct.

Q. Are there any other cascades or falls on the river at the present time?

A. Well, there are not a great many cascades of any great degree left anymore. In fact, the Great Falls at New Milford are not in existence anymore of CL&P's active program of building dams on the main stem.

Q. So the dams to which Mr. Teleen referred, and the pondage, to which he referred, have resulted in some of these

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obstacles to navigation no longer existing, is that correct?

A That would be the case had the power company been kind or thoughtful enough to build a canalway around the Steven's Dam and around the Shepaug Dam. At one time small boats could be without a break, but they can not now.

Q I was referring to the fact some of these historic obstacles to navigation are now under water resulting from impoundment of the river by various dams now owned by the Connecticut Light and Power Company. Is that correct, sir?

A I think that is true in part.

MR. McINTOSH: Thank you.

No further questions.

PRESIDING JUDGE: Is there any further recross?

MR. TELEEN: No, Your Honor.

MS. BOIKESS: No questions, Your Honor.

PRESIDING JUDGE: No further redirect, Mr. Kosloff?

MR. KOSLOFF: No, Your Honor.

PRESIDING JUDGE: Thank you very much. You may step down.

(Witness excused)

PRESIDING JUDGE: Now, you have a witness for cross-examination, Mr. Teleen?

MR. TELEEN: Yes.

PRESIDING JUDGE: Has he testified on direct?

MR. TELEEN: No, Your Honor. We planned to put on Mr.

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Hull next. But before that I had a matter I would like to discuss. We could do it now or later. But I think it would be valuable to have all parties here. I am thinking if we run over to tomorrow some parties might return to Connecticut and would not be here, some of the employees of some of the parties.

PRESIDING JUDGE: Very well.

MR. TELEEN: I was referring generally to the matter which at your direction was put over until today, January 7, from our last hearing session, in November. That has to do with Exhibit 11, which is a Bibliography prepared by Professor Collier, and specifically has to do with certain materials which Connecticut Light and Power made available to the parties that last hearing day in November, which allowed the parties to know precisely what use Professor Collier had made of the various materials listed in his Bibliography.

At that time I said I thought it would be an important aid to the record for those materials just generally called citations, if they were to be offered for inclusion in the record and made part of the record so that everyone who might read the record in the future would have specific awareness of what parts of those books stated in the Bibliography, what parts were used by Professor Collier.

I wondered what decision Mr. McIntosh and CL&P had made in that regard in terms of making those pages available --

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not available, but offering them for inclusion in the record.

PRESIDING JUDGE: Were they made available, by the way?

MR. TELEEN: Yes, sir. CL&P was very cooperative in making them available, although they were rather disjointed in that they did not say specifically that, say, Item 12 of the Bibliography was used in such-and-such a manner, however we were able to determine that.

PRESIDING JUDGE: It was your thought it would be desirable to have them put in the records as an exhibit?

MR. TELEEN: Exactly, Your Honor.

PRESIDING JUDGE: Mr. McIntosh, I will hear from you.

MR. McINTOSH: Your Honor, Mr. Teleen has the advantage on me. I did not recall that specific part of his suggestion. I did recall a lengthy report prepared by Professor Collier of his research, and submitted to our law firm, and that in connection with a request for that report we furnished to all parties a list of the citations prepared by Professor Collier and relating to the testimony he gave in this proceeding and the report he had made. He supplied that to evrey everyone. I believe it has been made use of in the interim between the time of the hearing in December and now.

Frankly, I had not focused on whether it should be appropriately part of the record as an exhibit. It is difficult for me to see how it would be used in briefing.

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I have no objection to it being included as part of the record.

PRESIDING JUDGE: How bulky is it?

MR. McINTOSH: I do not have a copy with me, even.

PRESIDING JUDGE: Do you have, Mr. Teleen?

MR. McINTOSH: Your Honor, it is a difficult document to use for briefing purposes. It consists of a series of numbered citations. It does not relate to any specific text, so, as I say, it is difficult to use. I have no objection to these being referred to as the specific references which underlie Professor Collier's testimony in this proceeding.

MR. TELEEN: We know how difficult it is to use, Your Honor; as give and take in supplying the information from CL&P, we undertook to decipher the terms. It is unfortunate that this is the only form this material is in, but I do think it would be worthwhile for it to be in the record.

I have a specific record citation of our discussion of it, Your Honor.

PRESIDING JUDGE: I do not need that.

I am rather dubious, myself, as to its usefulness. However, I would not want to rule out whatever remote possibility there might be that it could be useful.

If you believe it is, or may be, useful, and Mr. McIntosh has no violent objections, we will put it into the record

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and admit it as an exhibit.

MR. TELEEN: I do believe, Your Honor, that it might be useful and should be part of the record.

MR. McINTOSH: Your Honor, I have no violent objections.

However, I point out it is only part of a picture, one segment of a work effort.

So qualified, it was not intended to stand alone or be used alone in any fashion.

MR. TELEEN: Precisely the point, Your Honor. Exhibit 11 now stands alone and may or may not accurately reflect work effort by Professor Collier. These citation materials very specifically point out to whoever reads them what use the bibliography was put to.

PRESIDING JUDGE: The reservations are now incorporated into the record. If useis made of this material, I will take into account the fact that this material does not stand alone, and will give it weight accordingly.

Would you identify the document?

MR. McINTOSH: I believe, Your Honor, Mr. Teleen will have to do this for me. I do not have an unmarked copy. On my only copy at this time I have Professor Collier's handwritten notes.

MR. TELEEN: Could we go off the record a moment?

PRESIDING JUDGE: Yes.

(Discussion had off the record.)

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PRESIDING JUDGE: On the record.

We will call this "Supplement to Exhibit 11." It is received in evidence as Exhibit No. 20.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 20 FOR IDENTIFICATION, AND RECEIVED IN EVIDENCE.)

MR. TELEEN: One of us will have to make copies and send to the parties. I will be glad to do that.

MR. McINTOSH: If you would.

PRESIDING JUDGE: We will, then, put the burden on you. You will see that I get a copy, that Columbia Reporting Services gets two copies with a note to explain what the document is.

MR. TELEEN: And we will send copies to all parties.

PRESIDING JUDGE: Of course.

Mr. Kosloff?

MR. KOSLOFF: Your Honor, I would like to call your Honor's attention to Prepared Direct Testimony that was filed by the Department of Environmental Protection, Testimony of Brendon S. Kelliher. Subsequent to filing this direct testimony, it appeared Mr. Kelliher (Kelehea) would not be available to testify. I have not formally withdrawn that testimony. I would like to do so at this time.

PRESIDING JUDGE: Very well.

Will you call your witness, Mr. Teleen?

MR. TELEEN: Your Honor, I call Staff Witness

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Clinton D. Hull.

Whereupon,

CLINTON D. HULL

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. TELEEN:

Q. Mr. Hull, are you the same person who filed six pages of prepared direct testimony on October 18, 1974 and 2 pages of prepared rebuttal testimony on November 8, 1974, in regard to this proceeding?

A. I am.

Q. Do you have that testimony before you?

A. I have the direct testimony before me.

Q. Very well.

A. I do not have rebuttal.

Q. If asked the same questions as are asked in that testimony, would your answers be the same?

A. They would be.

Q. Are the answers true and correct, to the best of your knowledge and belief?

A. They are.

Q. Are there any corrections you wish to make in that prepared testimony?

A. There is one correction in the direct testimony,

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at page 4, line 13.

After "Ansonia" the word "Massachusetts" should be deleted. That was an error.

MR. TELLEN: Your Honor, I request that the Prepared Testimony of Mr. Hull, consisting of six pages of direct and two pages of rebuttal, and accompanying affidavits, be copied into the record.

PRESIDING JUDGE: It is so ordered. Please see that the reporter's is a corrected copy.

(The Prepared Direct Testimony of C. D. Hull; The Prepared Rebuttal Testimony of C. D. Hull, follows:)

UNITED STATES OF AMERICA
BEFORE
FEDERAL POWER COMMISSION
PROJECT NO. 2576, 2604, 2632, & 2646

Hull- Direct 715

Direct Testimony of Clinton D. Hull

Q. Please state your name and address?

A. My name is Clinton D. Hull, and my business address is 825 North Capitol St., N. E., Washington, D. C. 20426.

Q. By whom are you employed and in what capacity?

A. I am employed by the Federal Power Commission as an Engineering Technician in the Bureau of Power, Division of Licensed Projects Section of Project Analysis.

Q. What is your educational background?

A. I attended Agricultural & Technical College of North Carolina in Greensboro, from 1939 to 1941, enrolled in liberal arts courses. From 1949 to 1950, I attended Howard University, Washington, D. C., enrolled in the School of Business Administration. During 1951, I earned a Certificate of Completion in a three year course in business and office management at the Cortez Peters Business School, Washington, D. C. In addition, I attended The American University, Washington, D. C., from 1959 to 1960, completing fifteen semester hours in accounting and business statistics.

Q. Would you briefly outline your professional experience?

A. I have been with the Federal Power Commission since 1951. During the first seven years I worked in the Records Classification and General Files Section. In 1958 I was transferred to the Bureau of Power, Section of Applications. My

responsibilities were to receive records, process files, and maintain all engineering exhibits and drawings filed as part of applications for permits, licenses and declarations of intentions, in addition to any amendments thereof. Further duties include assigning project numbers to each drawing and maintaining card reference records of pertinent information.

In 1963 I was transferred to the Section of Project Analysis and have remained with that section to the present time. My responsibilities include reviewing applications for license of constructed and unconstructed hydroelectric projects as well as other data sources, to determine if such projects are located on, or affect, navigable waters or government lands.

Q. What are some of the projects which you have studied recently?

A. These would include:

(1) Central Maine Power Company et al's Moxie Storage Project No. 2613

(2) Pacific Gas and Electric Company's Angels Project No. 2699

(3) Flambeau Power Company's Lower Hydro-Electric Project No. 2421.

Q. What studies were made by you in connection with Connecticut Light and Power Company's Project Nos. 2576, 2604, 2632, and 2646?

A. I reviewed the applications for license of said projects as well as the applications for withdrawal of the applications for

license. I reviewed a report from the Chief of Engineers on the Housatonic River, Connecticut, concerning navigation, flood control, power development, and irrigation in H.D. No. 246 (72/1), generally referred to as a "308 Report". In addition, I located and studied several published works in the Library of Congress collection concerning the historical usage of the Housatonic River.

Q. Would you list the dates on which Connecticut Light and Power Company filed applications for license for the project being considered and also the dates on which applications to withdraw those applications were filed?

A. Connecticut Light and Power Company (Applicant) filed license applications on February 28, 1966, July 1, 1966, December 29, 1966, and April 28, 1967, for its Shepaug Project No. 2576, Bulls Bridge Project No. 2604, Rocky River Project No. 2632 and its Stevenson Project No. 2646, respectively. Applicant filed separate applications for withdrawal of the applications for license for Project Nos. 2676, 2604, 2632, and 2646 on December 27, 1973.

Q. Would you generally describe the Housatonic River?

A. The Housatonic River rises in northwestern Massachusetts. It flows northwesterly to Pittsfield before turning to flow southerly for some 132 miles through Massachusetts and Connecticut. It empties into Long Island Sound at Stratford, Connecticut, which is about 5 miles east of Bridgeport Harbor.

It drains an area of 1,948 square miles, of which 498.4 square miles lie in western Massachusetts, 215.4 square miles lie in eastern New York, and 1,234.2 square miles lie in western Connecticut. The Housatonic River watershed is about 100 miles long and varies in width from about 16 miles in Massachusetts, to a maximum of 36 miles in Connecticut and New York. The drainage area is typically hilly, with wooded hilltops and cleared valleys. The total fall of the Housatonic River from source to mouth is somewhat over 1,400 feet.

The Housatonic River's principal tributary is the Naugatuck River, which rises near the Massachusetts line and flows southward past Torrington, Thomaston, Waterbury, Naugatuck, and Ansonia, [redacted], to meet the Housatonic River at Derby, about 12 miles above its mouth. Other tributaries are the Shepaug from the east and the Still, Rocky, and Ten Mile Rivers from the west.

Q. I hand you copies of Exhibit CDH-1 21 through Exhibit CDH-10 30. Were these exhibits compiled by you or under your supervision?

A. They were.

Q. Please describe these Exhibits.

A. The following Exhibits are made up of pages from published works which are considered pertinent to the issue of Federal Power Commission jurisdiction over Project Nos. 2576, 2604, 2632, and 2646. Exhibit CDH-1 21 is made up of pages from

Fellows, Henry Parker, Boating Trips On New England Rivers, Cupples, Upham, & Co., Boston, 1884. Library of Congress, F70.F32. Exhibit CDH-2 22 is made up of pages from Field, David Dudley, A History of The County of Berkshire, Massachusetts, Printed by Samuel W. Bush, Pittsfield, 1829. Library of Congress, F72.B5F4. Exhibit CDH-3 23 is made up of pages from Hoyt, Joseph B., The Connecticut Story, Readers Press Incorporated, 1961. Library of Congress, F94.3.H6 Exhibit CDH-4 24 is made up of pages from Johnson, Jane Eliza, Newtown's History and Historian Ezra Levan Johnson, Prepared by Jane Eliza Johnson, Newtown, Conn., 1917. Library of Congress, F104.N78J6. Exhibit CDH-5 25 is made up of pages from Labaree, Leonard Woods, and Fennelly, Catherine, The Public Records of The State of Connecticut, From May, 1793 through October, 1796, Vol. VIII, Published by The State, Hartford, 1951. Library of Congress, F99.C7. Exhibit CDH-6 26 is made up of pages from Smith, Chard Powers, The Housatonic - Puritan River, Rinehart & Co., Inc., New York and Toronto, 1946. Library of Congress, F102.H7S5. Exhibit CDH-7 27 is made up of pages from Starr, Edward C., A History of Cornwall, Connecticut, A Typical New England Town, 1926. Library of Congress, F104.C7S8. Exhibit CDH-8 28 is made up of pages from Sterry, Iveah Hunt, and Garrigus, William H., They Found A Way, Connecticut's Restless People, Stephen Daye Press, Brattleboro and Vermont, 1938.

Library of Congress, F95.S75. Exhibit CDH-9 29 is made up of pages from Taylor, Charles J., History of Great Barrington, Massachusetts, 1676-1882, Published by The Town of Great Barrington, 1928. Library of Congress, F74.G8T22. Exhibit CDH-10 30 is made up of pages from Trumbull, J. Hammond, The Public Records of The Colony of Connecticut, May, 1678-June, 1689, Vol. 3, Case, Lockwood & Co., Hartford, 1859. Library of Congress, F97.C7.

Q. Has the Commission in the past made findings concerning any one of the four projects?

A. On June 2, 1952, Electric Power Inc., of Berlin, Connecticut, a predecessor of applicant, filed a declaration of intention under Section 23(b) of the Federal Power Act (16 U.S.C. § 817) concerning its proposed construction of Shepaug Project No. 2576. An order of the Federal Power Commission, issued December 24, 1952, declared in part that "the interests of interstate or foreign commerce would not be affected by the construction and operation of the proposed Shepaug development: Provided, however, that these findings shall not be construed as relating to any effects upon the interests of interstate or foreign commerce which might be caused by any existing hydroelectric developments located on the Housatonic River."

AFFIDAVIT

District of Columbia:

Affiant having been first duly sworn, on oath deposes and says:

That he has read the foregoing testimony and if asked the questions herein his answers in response would be as shown;

That the facts contained herein for which he is responsible are true to the best of his knowledge and belief.

Clinton D. Hull

SUBSCRIBED AND SWORN to before me this 18th day of October, 1974.

Ethel A. Dugan

Notary Public in and for the District of Columbia

My Commission Expires February 14, 1975

Before The
Federal Power Commission

Hull - Direct 722

The Connecticut Light and Power Company Project Nos. 2576, 2604, 2632, and 2646

Rebuttal Testimony of Clinton D. Hull
Staff Engineering Technician, Federal Power Commission

Q. Are you the same Clinton D. Hull whose testimony in the above entitled joint jurisdictional proceeding was filed with the Commission on October 18, 1974?

A. Yes.

Q. Are you still employed with the Federal Power Commission and are your duties the same?

A. Yes.

Q. Have you found additional published works which may be pertinent to this joint jurisdictional proceeding?

A. Yes.

Q. I hand you copies of Exhibits CDH-11 31 and CDH-12 32. Were these exhibits compiled by you or under your supervision?

A. They were.

Q. Please describe these exhibits?

A. The following Exhibits are made up of pages from published works which may be relevant to this proceeding. Exhibit CDH-12 32 is made up of pages from the History of the Town of Rockingham, Vermont, 1753-1907, by Lyman Simpson Hayes, and published by the Town of Bellows Falls, Vermont, 1907. Library of Congress, F59R7H2.

Exhibit CDH-11 31 is made up of pages from Hampden County, 1636-1936, by Clifton Johnson, Historian and Author, volume 1, and published by The American Historical Society, Inc., New York, 1936. Library of Congress, F72H2J6.

AFFIDAVIT

District of Columbia:

Affiant having been first duly sworn, on oath deposes and says:

That he has read the foregoing testimony and if asked the questions herein his answers in response would be as shown;

That the facts contained herein for which he is responsible are true to the best of his knowledge and belief.

Clinton D. Hull

SUBSCRIBED AND SWORN to before me this 5th day of November, 1954.

Robert F. Keegan

Notary Public in and for the District of Columbia

My Commission Expires February 14, 1959

BY MR. TELEEN:

Q Mr. Hull, I now ask you about the item identified as Exhibit CDH-1, which is with your prepared direct testimony, an item of 37 pages identified as photocopied pages of a book about New England River Trips by Henry Parker Fellows.

Was that exhibit compiled by you or under your direction?

A It was.

Q Is the exhibit true and correct to the best of your knowledge and belief?

A It is.

MR. TELEEN: Your Honor, I ask that this exhibit be identified.

PRESIDING JUDGE: Is there any objection to this exhibit?

MR. McINTOSH: Your Honor, I guess I will object to what I at least think I am hearing. I thought I was hearing that this witness prepared this document and the he vouches for the accuracy of the materials therein contained.

MR. TELEEN: No, no.

MR. McINTOSH: I assume these are more copies and that he will testify that they are accurate copies. To that I have no objection.

MR. TELEEN: I asked about "compiled" by Mr. Hull, "under his direction." In this sense when he used terms "true and correct" which refer to the copy of the existing

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manusacript.

MR. McINTOSH: On that basis, we have no objection, Your Honor.

PRESIDING JUDGE: That will be received in evidence as Exhibit No. 21.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 21 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-2, Mr. Hull, with your prepared direct testimony, an item of 11 pages, identified as -- photocopied pages from a book about the History of Berkshire, Massachusetts, edited by David Dudley Field.

Was that exhibit compiled by you or under your direction?

A Yes.

Q Is the exhibit true and correct, to the best of your knowledge and belief?

A It is.

MR. TELEEN: I ask that the Exhibit be identified as Exhibit No. 22.

PRESIDING JUDGE: Is there any objection?

(No response)

That will be received in evidence as Exhibit No. 22.

(THE DOCUMENT REFERRED TO WAR MARKED EXHIBIT NO. 22 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

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MR. McINTOSH: Your Honor, if I may ask a question, I may have -- I am sorry, I had one page out of order. There are seven pages to that exhibit?

MR. TELEEN: No. There are 11 pages. CDH-2, Field's work, containing the Dewey Passage.

MR. McINTOSH: All right. I have no problem.

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-3 with your prepared testimony, of 6 pages, identified as photo-copied pages of a book about Connecticut by Joseph B. Hoyt. Was that exhibit compiled by you or under your direction?

A It is.

Q Is the exhibit true and correct to the best of your knowledge and belief?

A It is.

MS. BOIKESS: May I ask a question about that? The cover page does not show a publication date, as the others do.

BY MR. TELEEN:

Q Do you have a publication date for Mr. Hoyt's book, Mr. Hull?

A No, I do not offhand.

MR. McINTOSH: Your Honor, Professor Collier suggests 1961 as a date.

PRESIDING JUDGE: Does that sound right?

MR. TELEEN: I might say, it is Staff's practice to enclose the frontispages as they exist in terms of continuity, and so forth, and sometimes they exist and sometimes not.

MR. McINTOSH: Your Honor, Professor Collier has confirmed from his own notes that this was published in 1961.

PRESIDING JUDGE: Is there any objection to the exhibit?

(No response)

That exhibit will be received as Exhibit 23.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 23 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-4 with your prepared direct testimony, an item of 5 pages identified as photocopied pages from a book about the History of Newtown, Connecticut, prepared by Jane Eliza Johnson.

Was that exhibit compiled by you or under your direction?

A It was.

Q Is the exhibit true and correct to the best of your knowledge and belief?

A It is.

MR. TELEEN: I ask that this be identified as Exhibit 24 and received in evidence, Your Honor?

PRESIDING JUDGE: Is there any objection?

(No response)

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(No response)

PRESIDING JUDGE: It is received in evidence as Exhibit No. 24.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 24 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I now ask you, Mr. Hull, about the item identified as Exhibit CDH-5, with your prepared direct testimony, an item of 4 pages identified as photocopied pages from a book holding the Public Records of Connecticut, from May 1793 through October 1976, compiled by Leonard Woods Larabee and Catherine Fennelly.

Was that compiled by you or under your direction?

A It was.

MR. TELEEN: I ask that this be identified as Exhibit 25 for identification and received in evidence, Your Honor.

PRESIDING JUDGE: Is there any objection?

(No response)

It is received in evidence as Exhibit No. 25.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 25 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-6, with your prepared direct testimony, an item of 6 pages identified as photocopied pages from a book about the

Housatonic River, by Chard Powers.

Was that exhibit compiled by you, or under your direction?

A. It was.

MS. BOIKESS: Again, does anybody know what the publication was?

MR. TELEEN: I now realize that would have been -- Professor Collier: 1946.

PRESIDING JUDGE: Thank you again, Professor Collier.

No objection?

(No response)

It is received in evidence as Exhibit No. 26.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 26 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

MS. BOIKESS: May we go off the record a second?

PRESIDING JUDGE: Off the record.

(Discussion had off the record.)

PRESIDING JUDGE: On the record.

BY MR. TELEEN:

Q. I now ask you about the item identified as Exhibit CDH-7 with your prepared direct testimony, an item of 4 pages identified as photocopied pages about the History of Cornwall, Connecticut, by Edward C. Starr. Was that exhibit compiled by you or under your direct examination?

A. It was.

Q. Is it true as to the best of your knowledge and

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belief?

A. It is.

MR. TELEEN: I ask that it be received in evidence as Exhibit 27.

PRESIDING JUDGE: Is there any objection?

(No response)

It is received in evidence as Exhibit No. 27.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 27 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDHQ8 with your prepared direct testimony, an item of 2 pages identified as photocopied pages from a book about Connecticut's People, by Iveagh Hunt Sterry and William H. Garrigus.

Was the exhibit conpiled by you or under your direct examination?

A It was.

Q Is it true at best of your knowledge and belief?

A It is.

MR. TELEEN: I ask that it be received as Exhibit 28.

PRESIDING JUDGE: Is there any objection?

(No response)

Itis received in evidence as Exhibit 28.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 28 FOR IDENTIFICATION.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-9 an item of 5 pages made up of photocopied pages of a book about the History of Great Barrington by Charles J. Taylor.

Was the exhibit compiled by you or under your direction?

A It was.

Q Is this true to the best of your knowledge and belief?

A It is.

MR. TELEEN: I ask that it be identified as Exhibit 29.

PRESIDING JUDGE: Are there any objections?

(No response)

It is received in evidence as Exhibit 29.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 29 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the document identified as Exhibit CDH-10, an item of 8 pages, identified as photocopied pages from a Book, "Holding the Public Records of the Colony of Connecticut for the period May 1678 through June 1689, transcribed and edited by J. Hammond Trumbull.

Was the exhibit compiled by you or under your direction?

A It was.

Q Is the exhibit true to the best of your knowledge?

A It is.

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MR. TELEEN: I ask that it be identified and received as Exhibit 30.

PRESIDING JUDGE: Without objection, it is received in evidence as Exhibit 30.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 30 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q Moving to the exhibits associated with your rebuttal testimony, the one identified as CDH-11, of 2 pages, photocopied pages from a book about Hampden County, by Clifton Johnson, was that exhibit compiled by you or under your direction?

A It was.

PRESIDING JUDGE: Without objection, it is received in evidence as Exhibit 31.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 31 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I now ask you about an item identified as Exhibit CDH-12, with your rebuttal testimony, an Item of 2 pages identified as photocopied pages from a Book about the History of Rockingham, Vermont, by Lyman Simpson Hayes.

Was that exhibit compiled by you or under your direction?

A It was.

Q Is it true and correct to the best of your knowledge

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and belief?

A It is.

MR. TEEEN: I ask that that be received in evidence as Exhibit No. 32.

PRESIDING JUDGE: Without objection, it is received in evidence as Exhibit No. 32.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 32 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

MR. TEEEN: Now, Your Honor, moving to a packet of exhibits distributed this morning, as I said, these have not been mailed to the other parties who are not here. They will be so mailed and will in addition be filed with the Secretary.

I hope the others here have had sufficient opportunity to examine them. With their permission, I will move their receipt in evidence.

PRESIDING JUDGE: Will you identify the material?

MR. TEEEN: Certainly.

BY MR. TEEEN:

Q I now ask you about the item identified as Exhibit CDH-13, initially distributed to the parties on November 19, 1974 and redistributed on January 7, 1975, after the addition of an identifying paragraph, an item of one page identified as a photocpied pages from what is believed to be an issue of the New Haven Register, published in 1951 or 1952.

Was this exhibit compiled and prepared by you or under

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your direction?

A. It was.

Q Is it true to the best of your knowledge and belief?

A. It is.

Q Are there any changes or corrections you wish to make?

A. No.

MR. TELEEN: I ask that this be received in evidence as Exhibit No. 33.

PRESIDING JUDGE: Mrs. Boikess?

MS. BOIKESS: I have a question. This might have been covered before and I do not remember.

Where was this found? How was it found? We don't know exactly where it is from or how it was discovered.

MR. TELEEN: A photocopy of the original was found in Commission Files, or Commission Records; not specific files but just work papers of Commission Staff people.

MS. BOIKESS: In connection with this case?

MR. TELEEN: No, not in connection with this case.

MS. BOIKESS: How is it known, then, that it may or may not have been published in the New Haven Register?

MR. TELEEN: It is likely, from the Editor's note, that this existed in a paper called the "Register". The Ayer Directory of Publications for 1974 lists a New Haven Register of some large, I think 100,000 circulation, daily

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paper, which has been in existence since 1812.

PRESIDING JUDGE: Is the original, if I may use the term "original" newspaper itself,or this page in the Commission's files?

Or does the Commission's file contain a photocopy?

MR. TRIBEN: When I speak I do not mean really "Commission files." It is not in the Central Files of the Commission under any file jacket. It is among the workpapers of Staff Members. All that exists is a reproduction of this -- this photocopy before you was taken from that photocopy.

PRESIDING JUDGE: In other words, this reproduction is a copy of a reproduction.

MR. TRIBEN: Yes.

MR. McINTOSH: Your Honor, I object to receipt of this document in evidence. I don't believe it has been properly identified. I don't believe it qualifies as a record from the Commission's own records, nor do I believe it has been identified in any way as coming from a source which should be given any recognition in this proceeding.

There is a mysterious reference in it to a "Register." I understand there are several newspapers with the name "Register" and there is no indication even that it was published in one of them.

There is no indication of who published it, for what purpose, by whom it was edited, or in what, if any, way it is modified.

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PRESIDING JUDGE: What is the date of issue, of the newspaper?

MR. TELEEN: In addition, let me say the Staff has contacted the New Haven Register and looked into the possibility of what type of filing system might exist or what type of indexing system might exist, in an effort to pinpoint when this might have been published. We are told there is none and it might involve a page-by-page search of their files of actual newspaper pages.

As I said, we, from the body of the story itself, believe it appears -- it definitely appears, given the subject matter of the story, that the Housatonic is being talked about. Connecticut town names are mentioned. Through the geographic proximity of New Haven to the Housatonic we assumed it was the New Haven Register.

As I said, the Ayer Directory of Publications for 1974 states a New Haven Register existed, established in 1812, with a daily circulation of 108,000 and a Sunday circulation of 26,000.

In addition, we checked the Ayer Directory and found no newspaper called the Register is listed as to towns of Derby or Bridgeport.

PRESIDING JUDGE: Is this newspaper still in existence?

MR. TELEEN: Yes, Your Honor.

PRESIDING JUDGE: And do I understand you to tell me

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they do not keep old copies of their newspaper?

MR. TIEEN: It is my understanding they do keep old copies of the newspapers. But they do not have an indexing system which would greatly facilitate the search of their records.

We did consult the Library of Congress and learned it would not be possible for such a page-by-page search over roughly a 2-year period to take place.

PRESIDING JUDGE: You could not find this newspaper, by its date, in the files of either the newspaper or some library?

MR. TIEEN: What I am saying, Your Honor -- this is difficult for all of us -- a photocopy of this story existed, with no notation as to what newspaper was published in, if it was a newspaper, or its date. We believe it was published some time in 1952 or 1951: (a), because of reference in the first paragraph in the narrative as to the aim of Mr. Stowe, when the article was written, and also the time we believe the article came into the files here at the Commission.

PRESIDING JUDGE: Mrs. Boikess, did you have something you wanted to say?

MS. BOIKESS: It was in no file connected with this application or this proceeding?

MR. TIEEN: It is in no public file of the Commission.

MS. BOIKESS: You also do not know necessarily whether this is the complete article, although from the last line you

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believe it is?

MR. TOLEEN: It is our belief that it is the complete article.

The Staff has gone out of its way to be very honest as to the identification on the lack of specificity as to the identification.

PRESIDING JUDGE: May I see the photocopy, please?

(Mr. Toleen hands document to Presiding Judge.)

I am going to receive this in evidence with considerable reluctance. I can assure you that the weight I will give it will be affected by the reluctance with which I receive it.

I am receiving it because in a case of this kind we apparently do rely upon data, if I may use the word "data" in this connection, which comes to us sometimes with and sometimes without sources, and sometimes, as already indicated, thrice and four times removed.

It will be received in evidence as Exhibit No. 33.

MR. McINTOSH: May the record note that I object to its receipt in evidence?

PRESIDING JUDGE: I am sure the record does show that. Even if it did not, my reluctance is quite obviously motivated.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 33 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TOLEEN:

Q I ask you about CDH-14 distributed to the parties on

November 21, 1974, redistributed on January 7, 1975 after the addition of 2 identifying pages, an item of 5 pages identified as 2 short biographies of Chester Dewey.

Was the exhibit compiled by you, under your direction?

A. It was.

Q. Is this exhibit true and correct to the best of your knowledge and belief?

A. It is.

MR. TRLEEN: I ask that be marked as Exhibit 34 and received in evidence.

PRESIDING JUDGE: Without objection, it is received in evidence as Exhibit 34.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT No. 34 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TRLEEN:

Q. I now ask you about the item identified as CDH-15 distributed to the parties on November 19, 1974 and redistributed on January 7, 1975, an item of one page identified as a Map of the Housatonic Valley, with a Table of approximate river miles.

Was this exhibit compiled and prepared by you or under your direction?

A. It was.

Q. Is the map itself taken from Chard Powers Smith's book on the Housatonic?

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A. It is.

Q. Is the exhibit true and correct to the best of your knowledge and belief?

A. It is.

Q. Do you have any changes or corrections to make to it?

A. None.

MR. TELEEN: I ask that this be Exhibit 35 for identification and that it be received in evidence.

PRESIDING JUDGE: Mrs. Boikess?

MS. BOIKESS: No objection. I just wish Mr. Teleen would restate for the record what was stated before, which is, I understand, what the witness did was take a map and added one item to it, which is the river mileage.

MR. TELEEN: Exactly correct.

PRESIDING JUDGE: Can you identify the other map you are talking about?

MS. BOIKESS: That is exhibit --

MR. TELEEN: That is Exhibit whatever.

PRESIDING JUDGE: You mean just introduced?

MR. TELEEN: Yes.

MS. BOIKESS: Page 2 of Exhibit No. 26, Your Honor.

MR. TELEEN: That is correct.

MS. BOIKESS: Would you state where you got the river mileage?

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MR. TELEEN: I might add, your Honor, this map in essence is the same as that which exists in Exhibit 26, page 2. The witness has taken that, and through other sources, added the approximate river mile chart to the left-hand side of the map for the aid of the parties and the record.

MS. BOIKESS: What is the source of the river miles that were added?

MR. TELEEN: I am not sure. Perhaps you can reach that on cross.

MS. BOIKESS: Fine.

PRESIDING JUDGE: Without objection, it is received in evidence as Exhibit 35.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 35 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-16, distributed to the parties on January 7, 1975, an item of 5 pages identified as photocopied pages from a Book about Connecticut by John W. Barber.

Was this exhibit prepared by you or under your direction?

A It was.

Q Is it true to the best of your knowledge and belief?

A It is.

MR. TELEEN: I ask that this exhibit be identified.

PRESIDING JUDGE: Without objection, it is received in

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evidence as Exhibit No. 36.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 36 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

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BY MR. TELEEN:

Q I now ask you about the item identified as Exhibit CDI-17, distributed to the parties on January 7, 1975, an item of five pages identified as photocopied pages from a book containing an address delivered by Samuel Church on the occasion of the one hundredth anniversary of Salisbury, Connecticut's first annual town meeting. Was this compiled by you or under your direction?

A It was.

Q Is it true to the best of your knowledge?

A It is.

PRESIDING JUDGE: Without objection it is received in evidence as Exhibit 37.

(THE DOCUMENT ABOVE REFERRED TO WAS MARKED AS EXHIBIT NO. 37 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDI-18 distributed to the parties on January 7, an item of two pages identified as photocopied pages from a book containing Connecticut State statutes. Was this compiled by you or under your direction?

A It was.

Q Is it true to the best of your knowledge?

A It is.

MR. TELEEN: I ask that this be received as Exhibit 38.

PRESIDING JUDGE: Without objection it is received in evidence as Exhibit 38.

(THE DOCUMENT ABOVE REFERRED TO WAS MARKED AS EXHIBIT NO. 38 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I now ask you about the item identified as Exhibit CDH-19, distributed to the parties on January 7, an item of two pages, identified as a photocopied page from the town records of the Town of Cornwall, Connecticut. Was this exhibit compiled and prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A It is.

Q Are there any changes or corrections you wish to make?

A No.

MR. TELEEN: I ask that this be received in evidence as Exhibit 39.

MR. MC INTOSH: May I be heard on this, Your Honor?

PRESIDING JUDGE: Yes.

MR. MC INTOSH: We in Connecticut have a rather technical definition of "town records." This is identified as part of the town records. I question whether this is actually a record maintained by the municipal government of the Town of

Cornwall.

I would like to have the witness comment on that.

PRESIDING JUDGE: Can you tell us something about this, Mr. Hull?

THE WITNESS: The document was in the Historical Society of Cornwall, Mrs. Holmes, and she identified it as records of Cornwall. She is the head of the Historical Society there.

PRESIDING JUDGE: May I see the particular document that is offered as an exhibit?

(Witness hands document to Presiding Judge.)

MR. MC INTOSH: Your Honor, it is customary in Connecticut for town records to be maintained in a central place by town employees, as part of the town records system, and it is not customary for them to be kept by private organizations.

When Professor Collier sought to examine some of the records of the Cornwall Historical Society he was denied access to these records. I am troubled by the fact that this is held out today as a "town record" document.

PRESIDING JUDGE: We do have the testimony of the witness that this page was copied from a collection in the Historical Society and was identified by the person, the librarian, I presume, of that Society as something from the town records.

If there is some question as to whether it is a part of the town records I am perfectly willing to have the record show that there is some question. And certainly I will hold myself open to any further comment about it. But I do not see that it is thereby rendered inadmissible as an exhibit.

MR. MC INTOSH: No, I was not suggesting that, Your Honor. It was the question of identification that was troubling me at this point.

MR. TELBEN: As to the issue of town records being kept by the town clerk, or town official, I believe the Staff was in contact with a Mrs. Roland Fenn who is, I believe, town clerk of the Town of Cornwall. She put the Staff in touch with Mrs. Holmes of the Historical Society. It was made clear that because of the age of certain town records the town had given them over to the keeping of the Historical Society, which has the use of a safe in the Cornwall Library. I believe the Cornwall Historical Society and the Library are very closely combined in terms of function.

That would explain why they are not now kept by Mrs. Fenn, the town clerk.

PRESIDING JUDGE: The document will be received as Exhibit No. 39, and if there is any comment to be made about the authenticity of it as a town record I will hold myself open to a challenge to it, not as an exhibit but merely as to its weight. It seems to me even though it might not be

part of the town records it still would have some weight as an historical document, I would assume.

(THE DOCUMENT ABOVE REFERRED TO WAS MARKED AS EXHIBIT NO. 39 FOR IDENTIFICATION AND RECEIVED IN EVIDENCE.)

MR. MC INTOSH: Your Honor, before Mr. Teleen goes further may I interject a remark as to these Cornwall documents? I believe one or two more are coming up.

As I said, Professor Collier was denied access to certain of these records by the Historical Society. I believe at that time they were not identified as town records. I believe if they are town records that Professor Collier and every other citizen in the State of Connecticut has a right to any material contained in a town record.

If these are not town records, or if the Historical Society might again deny Professor Collier access to these records I would like assurance that to the extent it is of assistance to us the Federal Power Commission staff has no objection to our viewing these records and has in fact given its express consent to that.

MR. TELEEN: Certainly, Your Honor, I would have no objection to the Federal Power Commission staff being used in that regard.

I might say Mr. Hull was allowed to see these items and to photocopy them after Staff contacted Mrs. Fenn who in turn put us in contact with Mrs. Holmes.

Mrs. Holmes made it very clear that there has been a transition of these records and the documents which were being held by the Town Library in terms of, I believe, ownership, at least control, being given to the Historical Society. They are in the midst, as I understand it, of a rehabilitation or cataloguing period, where they have a machine through which the old papers can be put and refurbished some way. That is why the bulk of this collection has been closed to the public.

Mrs. Holmes was good enough to procure from the collection three or four specific packets of materials which I understand she then brought to the town clerk's office, which is right next to the library, and there Mr. Hull was allowed to examine them and have them photocopied with the assistance of Mrs. Fenn and Mrs. Holmes.

Their assistance was acquired by nothing more than our asking. So I would think there should not be a problem if Professor Collier were interested in asking.

PRESIDING JUDGE: If need be would you be good enough to telephone the Society and ask them to cooperate with Professor Collier, that it involves a case that is pending here and that we are interested in whatever materials will help either side?

MR. TELEEN: I will be happy to, at the specific request of Mr. McIntosh.

MR. KOSLOFF: Your Honor, for whatever it is worth, I might add, our department would certainly lend its cooperation in attempting to produce such material.

PRESIDING JUDGE: Thank you.

MR. MC INTOSH: I want to thank both gentlemen for their offers of cooperation. I just point out they are somewhat naive in believing officials in charge of documents are as courteous to private individuals, whatever their purpose, as they are to officials of the Federal Government. That is unfortunate. I believe that is what we have run into in this case.

PRESIDING JUDGE: Perhaps a call from Mr. Tolleen might help. Perhaps you can get the State of Connecticut to pass a Freedom of Information Act.

MR. MC INTOSH: We do have one. That is why I have trouble with the question of whether these are town records.

If they are town records we have a right to see them. The fact we were denied access to them is one thing that leads me to question whether they are town records.

PRESIDING JUDGE: It seems to me odd, unless the Society were in fact in process of cataloging some things, that it would not have its records available to an historian.

MR. MC INTOSH: I am sure Your Honor is correct, that it was a matter of inconvenience to them at the time, so they refused to turn over the records. They did not choose to apply

the same standards to the Federal Government.

This puts us at a disadvantage. We did not have the opportunity to see these records before today, we did not have the opportunity to see other documents which might be there which might be equally relevant.

MR. TILLEEN: I might add, the Staff went out of its way to fit Mr. Hull's schedule for his recent trip to Connecticut during the regular days when I believe Mrs. Holmes is at the Historical Society working. That might have something to do with it.

PRESIDING JUDGE: All right. Let us proceed.

Would you like a copy of the transcript sent to the Historical Society?

MR. MC INTOSH: We might need it.

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BY MR. TELEEN:

Q I ask you about the item identified as Exhibit CDH-20, distributed to the parties today, an item of three pages, identified as photopied pages from a book by Timothy Dwight concerning his travels in New England. Was this exhibit compiled by you or under your direction?

A It was.

Q Is this exhibit true to the best of your knowledge?

A It is.

MR. TELEEN: I ask that this exhibit be identified as Exhibit No. 40.

PRESIDING JUDGE: Without objection it is received as Exhibit 40.

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(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT No. 40 FOR IDENTIFICATION AND WAS RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I now ask you about the item identified as Exhibit CDH-21, distributed to the parties on January 7, 1975, an item of three pages, identified as photocopied pages from a book about Derby, Connecticut, by Samuel Orcutt. Was this exhibit compiled by you or under your direction?

A It was.

Q Is this exhibit true to the best of your belief?

A It is.

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MR. TELEEN: I ask that this exhibit be received as Exhibit No. 41.

PRESIDING JUDGE: Without objection it is received in evidence as Exhibit No. 41.

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(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT No. 41 FOR IDENTIFICATION AND WAS RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as CDH-22, distributed to the parties on January 7, 1975, an item of two pages identified as a photocopy of a handwritten copy of an unknown work. Was this exhibit compiled and prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A It is.

Q Are there any changes or corrections you wish to make?

A No.

MR. TELEEN: I ask that this be received in evidence as Exhibit No. 42.

PRESIDING JUDGE: Where was this document found?

MR. TELEEN: This would explain it, Your Honor. Again, it was in the Historical Society.

MR. MC INTOSH: May I be heard on this, Your Honor?

PRESIDING JUDGE: Yes.

MR. MC INTOSH: Your Honor, it seems to me that this document is not properly identified and qualified for admission in evidence in this proceeding. The Staff by its own admission calls this an unknown work. The custodian of this document identifies it as not being a copy of the work of a gentleman named Timothy Stone, but identifies it as a copy of another work which he, or she, the custodian is unable to identify. We have here an unknown work, not a copy of something that can be identified but it is instead a copy of another work which the custodian cannot identify. I think it is stretching things much too far, Your Honor, to allow this to be received in evidence.

MR. TELEEN: May I be heard, Your Honor?

PRESIDING JUDGE: Yes.

MR. TELEEN: I would like to point out that the Staff has been in contact with Mrs. Holmes and she, while it is true she has not at this time been able to identify this particular page, is continuing her efforts to make identification.

It is our understanding that she is working on this very issue or very problem today or tomorrow in Cornwall. And I understand the problem that might arise in terms of her arriving at some judgment at a later time and this may or may not have been received.

The reason I say this is that its possible identification at a later time has not been foreclosed. It is quite possible she may be able to determine what this is from.

Beyond that, Your Honor, she is very specific in her belief that it is a handwritten copy of another work.

The original, of which you have a photocopy in front of you, does exist in the collection of the Cornwall Historical Society. It appears to be a later -- this is pure conjecture, now -- it would appear to be a history written within, say, the last 100 years. Again, we have no way of knowing.

I think very definitely because of its content it has a place in the record of this proceeding.

While certainly it could not be given as much weight as a specifically identified item, I think it should be in the record.

MR. MC INTOSH: May I be heard further, Your Honor?

PRESIDING JUDGE: Mr. McIntosh, suppose someone discovered a stone with some carving that might or might not have some bearing. Well, say it might have some bearing. Without any knowledge on our part or on the part of anybody living as to who made the carving or where that stone came from, what would be your feeling about its probative value?

MR. MC INTOSH: Your Honor, I feel it would have none if I were not able to question the person who discovered it, or at least the custodian of it.

PRESIDING JUDGE: You cannot mean that?

MR. MC INTOSH: Here we have a situation where Mr. Tolson speaks for Mrs. Holmes and says she is very specific about certain beliefs she has.

PRESIDING JUDGE: You are not answering my question.

This record is now full of references to material from people who cannot be cross-examined. We can identify some of these things, and we know their sources. But we cannot identify the people who wrote those documents, or who said those things. So I do not think it is a matter of cross examination.

I am not at the moment particularly concerned with what Mrs. Holmes told Mr. Hull or anyone else.

Here you have a historical society and they have a collection of papers, and there is a paper among them, nobody knows who wrote it or what its source is. That is why I ask you about the discovery of a stone with some carving which cannot be identified and suppose Mr. Tolson said "aha, here we have something, I am going to take a photograph of that stone and offer it in evidence?"

MR. MC INTOSH: Your Honor, I think we have a right to inquire as to the line of possession, who discovered

it, who has been holding it, and the circumstances of its present existence and all the documents surrounding it. I don't think we can say, "This is a stone." We don't know what this is, where it was found, by whom, what other documents were with it.

PRESIDING JUDGE: You can ask Mr. Hull whether he received this piece of paper from the Historical Society and was told that it came from a certain collection. It is, now that I think of it, of a piece with the kind of evidence we have been receiving here.

I will get to you, Ms. Boikess.

MR. MC INTOSH: I think, Your Honor, this is of a much lower level of credibility or evidentiary value. This has no identification at all other than the fact it came from the records of the Historical Society. No other identification of any sort.

PRESIDING JUDGE: I agree with you, I think this is on the borderline. I am very much troubled. That is why I am trying to probe your reasoning as a lawyer, as a capable lawyer.

MR. MC INTOSH: Your Honor, I do not believe this is properly admissible in evidence. It is, I think, improperly identified as to source, as to custody.

All we have in this proceeding is a report presumably by Mr. Hull that he talked to the custodian of this

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document and the custodian said "It is unknown, it is not the copy of one work. I believe it is the copy of another work which I have not been able to identify." That is all we have about this.

I think this is on the other side of what should be admitted into evidence, Your Honor.

PRESIDING JUDGE: Let me ask you this: let us ignore everything Mr. Hull has said about this piece of paper except that he got it from the Historical Society.

You think about that.

Ms. Boikess.

MS. BOIKESS: I wanted to offer one point. It seems to me the most troublesome point about this piece of evidence is that there is no way at all of knowing at what time, not only by whom, but at what time, the original was written. The handwritten copy appears from the fact it is on lined paper with numbers, so forth, and sort of lined script, to be modern. We have no way of knowing whether it was copied from something written 25 years ago, some of the books we have talked of that were published in the 1940's or '50's, discussing discussing mast swamps,, or whether it dates back to an earlier period. We know it is not a a stone annal. That is what we know. What is troublesome about this piece of paper is what could be its possible worth if there appears from looking at it no way of knowing at what time

it was written, but all we know is that there is a piece of paper written in what appears to be modern script, appearing to be on modern paper, and no way of knowing who copied or when. To me the "when" seems most troublesome. I am not necessarily objecting. But I am saying, how we will ever know when, and if we don't know when, of what use is this piece of paper.

PRESIDING JUDGE: When you say "when" I take it you are speaking in terms of modern time, whatever modern times may be, perhaps the last 50 years, or something more ancient than modern times.

MS. BOIKESS: If we know when the original was written --

PRESIDING JUDGE: If we knew it was not in modern times would we have to know precisely when it was written? It seems to me we have received a great deal of evidence without ascertaining the "when" in that sense.

MS. BOIKESS: I am certainly not a trained historian, Professor Collier is. But it seems to me, just looking at it, that it looks as if it were on modern papers in modern script, therefore the copy was done recently. We have no way of knowing when whoever wrote the extract wrote it, whether 10 or 15 years ago, or more than that. It seems to me relatively worthless if it were written 15 years ago.

PRESIDING JUDGE: Can you comment on that, Mr. Hull?

THE WITNESS: Not other than it was in a package Mrs. Holmes had which she had taken from a vault.

In regard to a particular document I asked here about, she had this and gave it to me just to read, and took it and started to put it back --

PRESIDING JUDGE: What was showed you the original paper as far as you could tell, or was it a copy?

THE WITNESS: She showed it to me to read and I asked if I could have a copy of it.

PRESIDING JUDGE: But was what she showed you a copy, a photocopy?

THE WITNESS: I asked her for a copy. And she said "This is not an original." Now, the term she gave me originally she said were originals. Now, this she said was a copy from an original. I asked her if she knew where the original was and she said she assumed it was in the Connecticut State Library. Since I was going back there I had a little time and I checked some of the records there. I was not able to find it.

MR. TEEEN: I believe there is a bit of confusion, Your Honor.

Mr. Hull, was the paper she showed you similar to this, a plain piece of paper with the ink?

THE WITNESS: It was a copy, an original copy someone has made.

MR. TELEEN: That is what we mean when we say "the original handwritten copy" of an unknown source, unknown work. The paper Mr. Hull said and had photocopied was a piece of paper similar to this with pencil or ink written on it, that someone in the past has transcribed from another work, and that is the piece of paper that is in the Cornwall Historical Society.

PRESIDING JUDGE: Could you tell anything about the age, approximately, of the piece of paper that you were shown?

THE WITNESS: No, sir. I could not.

MR. TELEEN: Your Honor, excuse me.

BY MR. TELEEN:

Q Did Mrs. Holmes have any ideas as to who might have been the transcriber?

A She did not. I don't know how long Mrs. Holmes has been curator of the Society. But I assumed it took place before she came there, or she would have known who wrote it.

MR. TELEEN: I see.

PRESIDING JUDGE: Well, it certainly is a borderline question. Although I am strongly tempted to admit it, and I suppose in logic, logically, to be consistent with my earlier ruling, I should admit it, but I am going to exclude it.

If you can at a future date give us more satisfactory identification of its source or age, something to help us give it some credibility, I will leave it out of the record.

MR. TELLEEN: And the record can note --

PRESIDING JUDGE: This will be marked for identification as Item 42. But the objections to its admission are sustained.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 42 FOR IDENTIFICATION AND WAS REJECTED.)

MR. KOSLOFF: Your Honor, I would make the observation that if the Historical Society cannot find the document of which this represents a transcription, this transcription would then constitute the best evidence.

Also, I think we would liken this to perhaps the "ancient documents" exception to the hearsay rule, even if applied strictly. Of course to that end it would be very much a matter of importance to at least approximate the date of that transcription of which this document is a copy.

PRESIDING JUDGE: I do not believe either the best evidence rule or the ancient document rule would apply. We don't know of what it is the best evidence, nor do we know whether it is or is not an ancient document, and if it is an ancient document what kind of ancient document

o12 it is.

I will let my ruling stand.

MR. TELEEN: The record may show the Staff's objection or exception to your ruling?

PRESIDING JUDGE: Obviously.

MR. TELEEN: And I believe Your Honor did state your decision would be subject to later verification? If for example we finish today or tomorrow with the record, and say next week Mrs. Holmes --

PRESIDING JUDGE: Any time your briefs are filed if you have something that will substantiate this document better you may --

MR. TELEEN: It could be made part of the brief?

PRESIDING JUDGE: -- ask that it be made part of the record.

MR. TELEEN: Thank you.

MR. MC INTOSH: Your Honor, if Mr. Teleen does make an effort at a later time to reintroduce this exhibit on the basis of statements of Mrs. Holmes I would like the opportunity to cross examine the lady. I might add it was her husband to denied Professor Collier access to the records of which this is a part.

PRESIDING JUDGE: I don't know how we can arrange to have her cross examined. Whatever animus you may think exists there, I do not see how it helps us along. If you

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can talk to her, fine. But I do not think we can insist that in this case a person on whose statements we are relying has to be cross-examined unless we are ready to open up this whole record and insist that a great many other people be cross-examined.

MR. MC INTOSH: I suppose it depends on what Mr. Teleen submits. I will reserve my comments until I see that.

PRESIDING JUDGE: I would not worry too much about it at this date. I am not even sure that whatever this document shows -- I scanned it very hurddiedly -- is of terrible importance.

BY MR. TELEEN:

Q I now ask you, Mr. Hull, about the item identified as Exhibit CDH-23, distributed to the parties on January 7, 1975, an item of one page identified as a photocopied page from a book about Cornwall, by Edward Starr. Was this exhibit compiled and prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A It is.

Q Are there any changes or corrections you wish to make?

A No, sir.

MR. TELEEN: I ask that this exhibit be received in evidence as Exhibit 43.

PRESIDING JUDGE: Without objection it is received in evidence as Exhibit 43.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT No. 43 FOR IDENTIFICATION AND WAS RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I now ask you about the item identified as Exhibit CDH-24, distributed to the parties on January 7, 1975, an item of two pages identified as a photocopied page from an unpublished manuscript by the Reverend Timothy Stone. Was this exhibit compiled and prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A It is.

Q Are there any changes or corrections you wish to make?

A There are none.

MR. TELEEN: Your Honor, I ask that this exhibit be received in evidence as Exhibit 44.

PRESIDING JUDGE: Without objection it is received in evidence as Exhibit No. 44.

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT No. 44 FOR IDENTIFICATION AND WAS RECEIVED IN EVIDENCE.)

MR. TELEEN: That completes Mr. Hull's exhibits and testimony, Your Honor.

PRESIDING JUDGE: That completes the direct?

MR. TELEEN: Yes, Your Honor.

PRESIDING JUDGE: What is your pleasure, gentlemen? My time is 4:35.

MR. MC INTOSH: Your Honor, I believe I can complete my cross examination of Mr. Hull in a matter of minutes. I have only three or four questions of him.

PRESIDING JUDGE: How about your other witness, Mr. Teleen?

MR. TELEEN: Mr. Bragdon is available now or tomorrow morning, Your Honor.

PRESIDING JUDGE: I do not want to bring these people back if we can avoid it.

How many exhibits do you have for Mr. Bragdon?

MR. TELEEN: Two, Your Honor.

PRESIDING JUDGE: How about the cross examination of Mr. Bragdon?

MR. MC INTOSH: I think that will take five or ten minutes.

PRESIDING JUDGE: Let's go.

CROSS EXAMINATION

BY MR. MC INTOSH:

Q Have you received any instruction in historical methodology?

A No.

Q Do you have a degree in history?

A I do not.

Q Do you agree with the definition earlier given by Mr. Hickey regarding primary and secondary sources?

A I do not remember them.

Q Would you give us your own definition of primary and secondary sources?

A Primary of course would be the original author. Secondary would be writings taken from something someone else wrote.

Q What were your instructions in this proceeding? What was the scope of your research in this proceeding, Mr. Hull?

A What do you mean by the "scope"?

Q Were you instructed to include as materials submitted in this proceeding all documents relating to the Housatonic River or documents relating to navigability of the Housatonic River, or non-navigability, or what were your instructions, sir?

A I was instructed to make a study to determine

the navigable use of the Housatonic River.

Q Are the materials that have been submitted by you as exhibits the entire product of your study?

A No.

Q What was the criterion as to whether the materials you found were submitted as exhibits or not?

A As to whether or not I felt they were pertinent to the information itself, based on previous studies made by me and by the Staff prior to my doing so.

Q Did you include in your exhibits materials which did not make reference to navigation on the Housatonic River?

A If it were not pertinent to the usage, no.

Q Let me see if I understand your answer clearly.

If you referred to a work during the course of your study and that work made no reference to navigation on the Housatonic River would you have included it among the materials submitted in this proceeding?

A No.

Q Would you not have included it even if you thought it should have included a reference to such navigation if such navigation did exist?

A Will you restate that?

Q Would you have included that exhibit as an exhibit if you believed the work would have referred to navigation if there were navigation?

MR. TELEEN: Excuse me. Your Honor, I think the question is asking the witness to assume what some author in a time past might have done.

PRESIDING JUDGE: No. I think it is a valid question. Let me try to rephrase the question.

Suppose you were examining a piece of work in which you would expect to find a reference to navigation if there were navigation? Do you follow me?

THE WITNESS: Yes. Yes.

PRESIDING JUDGE: And you found no reference.

No, I want to rephrase the question.

Suppose you were examining a piece of work in which you expected to find a reference to whether or not there was navigation, and you found no reference there, even though you would have expected to find a reference. Do you follow me?

THE WITNESS: Yes.

PRESIDING JUDGE: Would you have included that?

THE WITNESS: No.

PRESIDING JUDGE: Is that the information you wanted?

MR. MC INTOSH: I believe the questions and answers are clear.

BY MR. MC INTOSH:

Q Would you have included among the materials submitted by you materials which established that there

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was no navigation on the Housatonic River, Mr. Hull?

A I could not have -- if I had found materials that established that there was no navigation I would not have included exhibits that stated that there was navigation. So I could not have done that.

Q Let's assume you found two works, one of which says there were activities which, in your judgment, constituted navigation, and another work which said there were no activities which constituted navigation. Would you have included both or only the ones that said there were navigational types of activities?

A I would have included the one that stated there was navigation. Based on the weight of that, I guess the one that said there was no navigation --

Q Are you tell us you would have made a judgment as to which one to believe and have included that one and not made reference to the other? Is that what you are saying?

A That is basically what I would do.

Q Did the materials you included with your report include materials which referred to physical obstacles to navigation on the Housatonic River?

A Yes. I will answer that with a qualification: there is normally a different definition for navigation as to the way the Commission decides whether a stream

o20

is navigable or not.

Now, if a stream can be used for transporting logs, then it is navigable as far as we are concerned, in reference to boats passing up and down the stream.

If that is the type of navigation that was referred to in reference to whether it could be used for logging, I would make my decision on that basis.

Q You are saying you have looked at the various sources of information and made a judgment as to which one you felt should be reported and which ones should be believed, which ones are important and relevant to this proceeding?

A That is true.

Q Let me refer specifically to only one item. You do make reference to the published colonial records of Connecticut, a report of a committee of the Connecticut General Assembly, and you refer to that work but you fail to refer to Volume 11, page 600, which lists obstructions in the Housatonic River as they existed in 1761.

Is there any reason you did not list that type of material?

A Where is that exhibit, which exhibit, that you are referring to now? I am not sure.

Q It is part of the documents referred to your

o21

Exhibit CDH-5, Colonial Records of Connecticut, and we are specifically referring to Volume Roman page XI, listing obstructions in the Housatonic River.

You did include certain pages from that document in your exhibit but failed to list the obstructions on page 600.

A May I ask you a question? Then I will be glad to try to answer.

The obstruction to which you make reference, was it to do with boats passing up and down the stream?

Q As I understand it, this was a list of obstructions in the Housatonic River, as reported by an official committee of the General Assembly of the State of Connecticut.

A What type of obstruction, sir?

Q A listing apparently of rapids, shoals, falls, so forth, in the river.

I ask why you did not include that with the documents you put in as exhibits.

A Again, rapids, falls, do not preclude the use of a stream for navigation. You can go around, or if it is for logs, you may go over them. I did not include them because I did not feel they were relevant.

Q If you did not consider something relevant you did not include it in the material you used as an

o22 exhibit?

A That is correct.

MR. MC INTOSH: No further questions.

PRESIDING JUDGE: Mr. Kosloff?

MR. KOSLOFF: Nothing, Your Honor.

PRESIDING JUDGE: Ms. Boikess.

BY MS. BOIKESS:

Q Exhibit 35, the map on which you wrote the mileage --

A Yes.

Q -- from where did you get the mileage?

A From the 308 report.

Q What is that?

PRESIDING JUDGE: What is the 308 report, Mr. Hull?

THE WITNESS: It is a document put out by the Corps of Engineers. This particular one is a study by the Corps of Engineers of the Housatonic River.

BY MS. BOIKESS:

Q I believe we have excerpts of that report.

A You do have.

PRESIDING JUDGE: Does that complete your cross examination?

MS. BOIKESS: Yes.

PRESIDING JUDGE: Do you have redirect?

MR. TELEEN: Yes, Your Honor.

REDIRECT EXAMINATION

BY MR. TELEEN:

Q Mr. McIntosh suggested you may have found in your research with respect to this proceeding a specific reference saying that, say, as to all types of navigation, something that would hypothetically, precluded even the use for logging, he suggested that you theoretically could have found something like that and did not make it available to this proceeding. Did you find any item like that?

A No, I did not.

Q So generally, well, specifically, the items you found all across the breadth of your research either made no mention at all of navigable uses of the Housatonic or were such items as you have made available in your exhibits to the proceeding?

A They are.

Q In reference to why you might not have made an exhibit of pages listing obstructions in the Housatonic, do other references and sources you have made available as exhibits in this proceeding make abundantly clear that all types of impedances to the use of the river do exist?

A That is true. May I add that "Boating Trips in New England" is typical of that type of thing.

Q Referring to the Fellows' work describing in some

o24

detail the rapids and dams he portaged around?

A That is true.

MR. TELEEN: No further questions, Your Honor.

PRESIDING JUDGE: Any further questions, any recross?

(No response.)

PRESIDING JUDGE: Thank you very much, Mr. Hull.

(Witness excused)

PRESIDING JUDGE: Your next witness.

BURNETT E. BRAGDON

took the stand, and having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. TELEEN:

Q Mr. Bragdon, are you the same person who filed three pages of prepared direct testimony on October 18, 1974, and five pages of prepared rebuttal testimony on November 8, 1974, in this proceeding?

A I am.

Q Do you have that testimony before you?

A I do.

Q If asked the same questions as are asked therein would your answers be the same?

A They would be.

Q Are the answers true and correct to the best of your knowledge and belief?

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A They are.

Q Are there any corrections you wish to make in your prepared testimony?

A No.

MR. TELEEN: I ask that the prepared testimony of Mr. Bragdon consiting of three pages of direct and five pages of rebuttal and accompanying affidavits be copied into the record.

PRESIDING JUDGE: So ordered.

(The testimony of Mr. Bragdon follows:)

BEFORE THE
FEDERAL POWER COMMISSION

THE CONNECTICUT LIGHT AND POWER COMPANY) PROJECT NOS. 2576, 2604
2632 & 2646

TESTIMONY OF BURNETT E. BRAGDON,
STAFF ENGINEER, FEDERAL POWER COMMISSION

Q. Would you please state your name.

A. Burnett E. Bragdon

Q. What is your office address?

A. 825 North Capitol Street, N. E., Washington, D.C.

Q. What is your position with the Federal Power Commission?

A. I am an electrical engineer in the Bureau of Power, Division of Power Supply and Reliability and in the Section of Coordination and Interconnection.

Q. How long have you been with the Commission?

A. I joined the Commission November 7, 1960.

Q. What are your duties with the Commission?

A. I make engineering determinations and prepare reports thereon, as to which electric power line and terminal facilities should be included in licenses for hydroelectric projects; and as to which hydroelectric facilities interconnect to bulk power systems affecting interstate transmission of energy. I also review and evaluate reports and other technical data with respect to determining the economic and technical advantages of the interconnection of electric power facilities and with respect to the reliability considerations which require coordination of bulk electric power system planning and operations. I also act as an engineering consultant and provide technical interpretation on electric transmission engineering matters both to the Commission and to other governmental organizations.

Q. What is your formal training in engineering?

A. I am a graduate of the University of Maine, class of 1960, with a Bachelor of Science Degree in Mechanical Engineering.

Q. What is a transmission system?

A. It is an interconnected group of electric transmission lines and associated equipment for the movement or transfer of electric energy in bulk between points of supply and points at which it is transformed for delivery to ultimate consumers, or is delivered to electric systems of others.

Q. Is the system of The Connecticut Light and Power Company considered such a system?

A. Yes.

Q. Are the Shepaug, Bulls Bridge, Rocky River, and Stevenson hydroelectric plants parts of that system?

A. Yes.

Q. Is The Connecticut Light and Power Company system interconnected with and does it deliver energy in bulk to any other systems?

A. Yes. The Connecticut Light and Power Company is interconnected with the Hartford Electric Light Company, the United Illuminating Company, the Bozrah Light and Power Company and various municipals within the state. They also interconnect and exchange energy across state lines with the Consolidated Edison Co. of New York, the Narragansett Electric Company of Rhode Island, the Western Massachusetts Electric Company of Massachusetts, and the Long Island Lighting Company of New York.

Q. I hand you a copy of Exhibit ____ (B-1). Was this exhibit prepared by you or under your supervision?

A. Yes it was.

Q. Please describe Exhibit ____ (B-1).

A. Exhibit ____ (B-1) is from Schedule 11 of FPC Form No. 12 as submitted by The Connecticut Light and Power Company for the year 1973 and shows the amounts of energy received and delivered across state lines.

Q. Is it unusual for two or more companies to interconnect the facilities of their respective transmission systems?

A. No. In fact, most of the utilities throughout the continental United States are so interconnected.

Q. Have you made a determination as to the hydroelectric facilities which interconnect to bulk power systems affecting interstate transmission of energy in relation to the Shepaug, Bulls Bridge, Rocky River and Stevenson plants?

A. I have made such a determination on the Shepaug and Bulls Bridge plants and supervised that made on the Rocky River and Stevenson plants.

Q. What were the findings?

A. It was found that the plants connect to an interconnected system which transmits energy across state lines.

Q. When were your studies made?

A. In 1966 and 1967.

Q. Are the studies still valid?

A. Yes. As shown on Exhibit ____ (B-1), The Connecticut Light and Power Company is interconnected and exchanged energy across state lines with several companies in 1973.

AFFIDAVIT

District of Columbia:

Affiant having been first duly sworn, on oath deposes and says:

That he has read the foregoing testimony and if asked the questions herein his answers in response would be as shown;

That the facts contained herein for which he is responsible are true to the best of his knowledge and belief.

Burnett E. Bragdon

SUBSCRIBED AND SWORN to before me this 17th day of October, 1974.

Jeanette N. Linkous
Notary Public

My Commission Expires January 14, 1979

BEFORE THE
FEDERAL POWER COMMISSION

The Connecticut Light and Power Company) Project Nos. 2576, 2604, 2632, and 2646

REBUTTAL TESTIMONY OF BURNETT E. BRAGDON
STAFF ENGINEER, FEDERAL POWER COMMISSION

Q. Are you the same Burnett E. Bragdon whose testimony in the above entitled joint jurisdictional proceeding was filed with the Commission on October 18, 1974?

A. Yes.

Q. Are you still employed with the Federal Power Commission, and are your duties the same?

A. Yes.

Q. You have previously testified that The Connecticut Light and Power Company interconnects with and exchanges energy with several other companies. How do they operate?

A. The various companies operate in synchronized operation.

Q. What is synchronized operation?

A. Synchronized operation or "parallel operation", as that term is used in the industry, is an operation wherein power facilities are electrically connected and controlled to operate at the same frequency.

Q. What is frequency?

A. For The Connecticut Light and Power Company and the companies interconnected to it, the frequency is 60 hertz.

Q. What is load frequency control?

A. There will be, in the normal operation of an electric system, some variation in frequency. The function of maintaining frequency at the standard 60 hertz, despite variations in load, is known as load frequency control.

Q. Is load frequency control important in an interconnected system operation?

A. Yes. Load frequency control is a basic requirement for any electric utility. Load frequency control is critical for a utility which is interconnected with others. Interconnected synchronous operation, or "parallel operation", as that term is used in the industry, requires that the frequency of each utility be in synchronism with that of all the others in the interconnection.

Q. Is synchronous operation mandatory for just the companies that are physically interconnected to each other?

A. Synchronous operation is mandatory to all companies that are interconnected and operating at the frequency. As an example, if you were to look closely at a transmission map of this country, you would see that companies are interconnected to each other from Canada to Florida. Therefore, the frequency of the Hydroelectric Power Commission of Ontario and that of the Florida Power and Light Company in southernmost Florida are the same pulse rate and time as that of The Connecticut Light and Power Company.

Q. I hand you a copy of Exhibit ____ (B-2). Was this exhibit prepared by you or under your supervision?

A. Yes, it was.

Q. Please describe Exhibit ____ (B-2).

A. Page 1 of Exhibit ____ (B-2) is an excerpt from Schedule 18 B of FPC Form No. 12 as submitted by The Connecticut Light and Power Company for the years 1970, 1971, 1972, and 1973. It shows the line terminals as well as the magnitude and direction of interstate flow of energy between The Connecticut Light and Power Company and the States of New York, Rhode Island, and Massachusetts. The direction of flow is as stated by the line terminals unless the megawatt figure is in parentheses which indicates the flow is in the opposite direction. The information supplied by Form No. 12 for the four years indicated was attested to by an executive officer of The Connecticut Light and Power Company.

Page 2 of Exhibit ___ (B-2) is a simplified sketch of the system of The Connecticut Light and Power Company showing the interconnections between the State of Connecticut and the States of New York, Rhode Island, and Massachusetts.

Q. Are the line terminals shown on Page 1 of Exhibit ____ (B-2) connected to the hydroelectric plants in this proceeding?

A. All are connected to the plants by virtue of the interconnected system, but only the Southington substation via Trap Falls and Devon substations and the Frost Bridge substation have a direct connection to any of the plants in this proceeding as shown on Page 2 of Exhibit ____ (B-2).

Q. What is the predominant magnitude and direction of the energy flow as shown on Page 1 of Exhibit ____ (B-2)?

A. Predominantly, the energy flow is from Connecticut to the surrounding states in both magnitude and direction.

Q. Is this predominance the same for the Southington and Frost Bridge terminals?

A. Yes. For the years of 1970, 1971, and 1972, as well as the reported time in April 1973, the energy flow was predominantly from Southington to the New York State line. Apparently, Frost Bridge was placed in operation between April and August 1973; and energy transactions were considered from that point for reporting in Schedule 18 B for August, October, and December.

Q. Is the energy flow also from Frost Bridge to New York?

A. Yes. At the reported times of August and December, the flow was from Connecticut to New York but in the reverse direction as reported in October.

Q. Are the hydroelectric plants in this proceeding directly connected to the Frost Bridge substation?

A. The Stevenson plant is directly connected to Frost Bridge. Rocky River plant is connected to Frost Bridge via the Bunker Hill substation. Bulls Bridge plant connects to Rocky River, and the Shepaug plant connects to both the Rocky River and Stevenson plants.

Q. Are these plants the only source of energy supplying the Frost Bridge substation?

A. No. Frost Bridge receives commingled energy from several sources. This energy is, in turn, commingled with the energy supplied by the plants in this proceeding which is either transmitted to New York or to other points as may be dictated by interconnected system needs.

Q. Would you please explain what you mean by commingled energy.

A. It is essentially a concept which is generally accepted as the best possible explanation of the flow of electrical energy within an interconnected system. It is based on the fact that it is not possible to say with precision what happens to the energy from any one generation source which is part of an interconnected system. The fact of interconnection means that the energy cannot be said to flow to any particular load point. As such, all generation sources within the system are said to produce commingled energy, whose specific distribution to load points cannot be accurately determined.

Q. Are the hydroelectric plants in this proceeding also connected to the Norwalk Harbor substation?

A. The plants are connected to the Triangle substation which, in turn, is connected to the Norwalk Harbor substation.

Q. What is the energy flow of the Norwalk Harbor to the Long Island, New York interconnection?

A. As shown by Page 1 Exhibit ____ (B-2), the energy flow was from Connecticut to New York for all times reported in 1971, for August in 1972, and for December in 1973.

Q. From what source would the Norwalk Harbor receive its energy which was transmitted to New York?

A. Norwalk Harbor received its energy from several generating sources of The Connecticut Light and Power Company and the interconnected system commingled with energy from the hydroelectric plants in this proceeding.

Q. As a result of your knowledge of The Connecticut Light and Power Company and the interconnected system, your work in connection with the preparation of testimony and exhibits to be submitted in this proceeding, and your general knowledge of electric utility operation, have you formed an opinion as to whether energy produced at the hydroelectric plants in this proceeding affects interstate transmission and leaves the State of Connecticut by interconnections to other states?

'119-E

A. Yes, I have. Electric energy from the hydroelectric plants in this proceeding, commingled with energy from other sources, during certain times is transmitted from Connecticut to New York state via the Frost Bridge-New York state line and the Norwalk Harbor to Long Island interconnections.

AFFIDAVIT

District of Columbia:

Affiant having been first duly sworn, on oath deposes and says:

That he has read the foregoing testimony and if asked the questions herein his answers in response would be as shown;

That the facts contained herein for which he is responsible are true to the best of his knowledge and belief.

Bruce F. Bragdon

SUBSCRIBED AND SWORN to before me this 7th day of October, 1974.

Jeanette A. Lukas
Notary Public

My Commission Expires January 14, 1979

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BY MR. TELEEN:

Q I ask you about the exhibit identified as Exhibit B-1 in your prepared direct testimony, an item of one page identified as a cable showing the energy transferred to or across state lines for the year 1973 by the Connecticut Light and Power Company. Was the exhibit prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A There is one correction.

Q Is it true --

A Oh, yes.

Q Okay. Are there any changes or corrections?

A Yes. One. Western Massachusetts Electric Company under " Energy Received" should read "491801 hundred."

Q Do you have any other corrections? Not on B-1.

MR. TELEEN: I offer it.

PRESIDING JUDGE: Any objection?

(No response.)

PRESIDING JUDGE: It is received in evidence as Exhibit 45.

(THE DOCUMENT REFERRED TO, MARKED EXHIBIT NO. 45 FOR IDENTIFICATION, WAS RECEIVED IN EVIDENCE.)

BY MR. TELEEN:

Q I ask you about the item identified as Exhibit B-2 in your prepared rebuttal testimony, an item of two pages identified as an excerpt from Schedule 18-B of FPC Form 12 submitted by Connecticut Light and Power Company for the years 1970 through 1973, including 1973. That is one page. The second page is simplified sketch of the Connecticut Light and Power Company system showing its interconnection with other states.

Was that exhibit prepared by you or under your direction?

A It was.

Q Is this exhibit true and correct to the best of your knowledge and belief?

A It is.

Q Do you have any changes or corrections to make to it?

A On page 1 there are two changes. Under 1971, Card Street to Rhode Island state line under August should read 299 instead of 399.

Under Scitico to Massachusetts state line, under "October" it should be blank.

I have no further corrections.

MR. TELEEN: I ask that this exhibit be identified as Exhibit 46 and received in evidance.

PRESIDING JUDGE: Without objection it is received as

(THE DOCUMENT REFERRED TO WAS MARKED EXHIBIT NO. 46 FOR IDENTIFICATION AND WAS RECEIVED IN EVIDENCE.)

MR. TEEN: The witness is available for cross-examination.

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CROSS EXAMINATION

BY MR. MC INTOSH:

Q Can you tell me whether it is possible to meter flows of electric energy along transmission lines?

A Yes.

Q Sir, is it possible to determine the direction of the flow of electric energy along transmission lines?

A Yes, with certain meters.

Q If the flow of electric energy is determined to be always in one direction would it be possible for a generating source of electric energy to transmit electric energy along that transmission line in the opposite direction?

A Well, yes, in -- yes. Your source of energy, or your meters, I am sorry, your meters may show that you have energy entirely in one direction.

However, the flow is such, or the electric systems are such, that you can get an instantaneous flow in the opposite direction which would not be recorded nor would it show on a flow meter of the type we have in use today.

Q You are saying, sir, that meters -- the present types of meters might not measure this type of flow?

A I think it is an accepted fact in the industry that we have no meters that would show that type of flow.

Q By "this type of flow" you are referring to is one of instantaneous character, is that correct?

A Yes. It would have to be of that nature.

Q To give you a hypothetical example, I refer you to a situation that is not on the situation of the Connecticut Light and Power Company, and involves the island of Martha's Vineyard, which is an island located off the coast of New England. For the purpose of the hypothetical would you assume an underwater cable connects Martha's Vineyard in the mainland, and there is a small generating station on the island of Martha's Vineyard?

A Yes.

Q Would you assume for the purpose of this question that the maximum capacity of that generating station is always less than the minimum load of electric usage on Martha's Vineyard?

A Oh, sure.

Q Now, sir, in the hypothetical I gave you the flow of electric energy along that transmission cable will always be from the mainland to Martha's Vineyard, is that correct, sir?

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A Well, it should be. But that is not necessarily true in actual operation.

Q Will you explain how if the load on Martha's Vineyard exceeds the capacity of the generating station it is possible for some of the electric energy generated by that station to flow back across the underwater cable to the mainland?

A Yes. If you have any large rock in the system, meaning something that has disturbed the system, which would cause the frequency of the system to deviate, then all the power in the system flows one way or the other, and if it happened to be hypothetically on the other side of the little island, then the power on that island would try to come back across. Instantaneously it will do so if the system is not too heavily "rocked", or does not have too sustained long time on a fault, then it will correct itself and immediately go back.

Q You are saying, as I understand it, that the hypothetical I gave you would be theoretically possible during disturbances of very short duration, possibly for the flow to go back along that transmission line?

A Yes.

Q Are those the only circumstances under which electric energy would flow back along that transmission line?

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A In that particular case perhaps.

Q I think it is important to this case for you to explain the "perhaps".

What is your qualification.

A You gave me a dead-end system.

Q I did; for the purpose of this hypothetical.

A But the system we are here to deal with is not a dead-end system.

PRESIDING JUDGE: Will you confine yourself to the hypothetical system in the question?

THE WITNESS: In that particular case, yes, that would be the only source it has.

MR. MC INTOSH: I have no further questions, Your Honor.

PRESIDING JUDGE: Is there any other cross examination? Mr. Kosloff?

MR. KOSLOFF: No, Your Honor.

PRESIDING JUDGE: Ms. Boikess?

MS. BOIKESS: No questions, Your Honor.

PRESIDING JUDGE: Mr. Teleen.

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REDIRECT EXAMINATION

BY MR. TELEEN:

Q Under the concept of energy flow called the "commingling theory" of which you speak in your prepared testimony, that essentially is the basis for your

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discussion, or your answers here this afternoon, is it not, in terms of that being your understanding and belief as to how energy is transferred, and so forth?

A Well, energy is transferred. But the commingling theory is that energy is transferred if you have more than two sources -- more than one source coming into one point, the energy from that point directly has to be from two sources, and you will not be able to tell exactly and in what amount, if you are flowing in two different directions, how much is from any specific source.

Q Would you agree that the figures that you used in your testimony and in some of your exhibits as to the amount of energy that is sent out of Connecticut or received in Connecticut in a year from the Connecticut Light and Power system, those numbers and figures which represent line direction and magnitude of flow, so forth, are at best necessary tools in terms of accounting, so forth, and do not specifically demonstrate the flow of energy?

A Well, not necessarily. We do not have equipment which will measure otherwise, so we can only use them as tools.

Q Those figures do not in any way in your mind detract from the viability of the commingling theory of energy transmission?

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A No.

MR. TELEEN: Thank you.

That is all I have, Your Honor.

PRESIDING JUDGE: Anything further?

RECROSS EXAMINATION

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BY MR. MC INTOSH:

Q You said the commingling theory depends on flow in two directions, is that correct?

A No.

Q That is not what you said, sir?

A No.

MR. MC INTOSH: Would the reporter read that portion of the answer?

(Portion of record of redirect read.)

BY MR. MC INTOSH:

Q Do you want to add anything further to your last answer to me?

A Oh, yes, I do.

Mentioning two different directions, I am sorry if I misled you. Two different directions geographically on two different lines.

Q If all of the flow is directed in towards one point then can you have commingling of energy generated at that point?

A You will have commingled energy at that point,

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yes.

Q At that point, yes.

PRESIDING JUDGE: Let me see if I can shorten this, if I may.

You were talking about, you said, a point. Did you mean, for example, a bus?

THE WITNESS: Yes.

PRESIDING JUDGE: You have a bus, you have energy from two sources going into that bus?

THE WITNESS: Right.

PRESIDING JUDGE: And you have a line, say one line or more than one line, that goes either locally or locally and beyond. Can you identify the energy in the bus, I mean as to source, that goes either into the one line or into several lines?

THE WITNESS: No, you cannot, after it comes onto the bus.

MR. MC INTOSH: If Your Honor would look at the hypothetical I posed of Martha's Vinayard Island with a cable coming in, a transmission line and a small generating station on the island, with the load of the island always exceeding the capacity of the generating station, and flow always in this direction (indicating) from the mainland to the island to meet the load of the island, the question is not whether this energy coming in commingles

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from the energy from this plant to serve Martha's Vineyard, but the question is does the energy produced from this plant commingle on the mainland with energy produced on the mainland.

THE WITNESS: Not except for the instances I referred to.

BY MR. MC INTOSH:

Q Except for the faults you referred to; and it makes no difference how many cables there are as long as the flow is always the same?

A Oh, it does, definitely.

Q If the flow is always in on both of them?

A Yes.

Q Will you explain?

A Yes, as I tried to earlier. We have a system now, but if we add to the system another plant at the end of the line, with the main transmission line going through, not necessarily the Vineyard, but just going through, if we have a fault on that particular line the heavy traffic now is going down through --

Q Sir, please in responding to the question do not refer to fault situations. I want to know about the normal operating situation, not atypical situations existing during conditions of outages or faults.

I want to know, under the normal operating situation when these flows are all metered in, will you have commingling

on the mainland of electricity generated from this plant?

A Sure.

Q You will?

A On the mainland?

Q Yes, sir.

A If they are all going in? In a hypothetical situation no.

However, we do not have a hypothetical situation at any time in the operation of a system.

PRESIDING JUDGE: Is there anything further, Mr. Teleen?

I think we can leave anything further for the briefs.

MR. TELEEN: Right, Your Honor.

Things have gotten confused here. I would just add perhaps the best source for all of us would be the prepared testimony of all parties on this issue.

PRESIDING JUDGE: All right.

Brief schedule? Let us go off the record for this.

(Discussion off the record.)

PRESIDING JUDGE: Initial briefs to be mailed on or before March 7. These are simultaneous briefs.

Transcript corrections to be made on or before March 7.

Reply briefs, simultaneously, to be mailed on or before April 8.

Thank you, Mr. Witness.

Thank you all, ladies and gentlemen.

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(Whereupon, at 5:14 p. m., the hearing was closed.)

BEFORE THE

FEDERAL POWER COMMISSION

In the Matter of:		
THE CONNECTICUT LIGHT & POWER COMPANY	PROJECT NOS.:	2576 2604 2632 2646

E R R A T A T R A N S C R I P T

APPROVED: February 19, 1975

The following proposed corrections to the transcript of hearing in the above-entitled matter held July 25, 1974; November 19, 20, 21, 22, 1974; and January 7, 1975 (Volumes 1 thru 6) have been approved by the Presiding Administrative Law Judge, as corrected.

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OFFICE OF ADMINISTRATIVE LAW JUDGES

GALLAND, KHARASCH, CALKINS & BROWN

ATTORNEYS AT LAW

CANAL SQUARE

1054 THIRTY-FIRST STREET, N. W.

WASHINGTON, D. C. 20007

CABLE: OBJECTIVE

TELEX 89-2520 (WU); 440297 (ITT)

TELEPHONE: 202 333-2200

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FEDERAL POWER NEW YORK OFFICE
FORTY WALL STREET
212 269-7266

DONALD S. ENGEL
JOSIAH K. ADAMS, JR.
COUNSEL

GEORGE F. GALLAND
ROBERT N. KHARASCH
G. NATHAN CALKINS
DAVID S. BROWN
LAURENCE A. SHORT
AMY SCUPI
ARTHUR D. BERNSTEIN
OLGA BOIKESS
WILLIAM KARAS
ROSEMARY BOYD AVERY
ROBERT L. McGEORGE
MORRIS R. GARFINKLE

ROBERT W. GINNANE
COUNSEL

August 1, 1974

The Honorable William Beasley Harris
Presiding Administrative Law Judge
Federal Power Commission
825 North Capitol Street
Washington, D. C. 20426

Re: The Connecticut Light and Power Company,
Project Nos. 2576, 2604, 2632 and 2646

Dear Judge Harris:

The Candlewood Lake Authority proposes the following corrections to the transcript of the pre-hearing conference held on July 25, 1974:

Page 15	line 25	change "for" to "through"
Page 16	line 1	change "town" to "towns"
Page 16	line 6	add "be" after "determinations"
Page 16	line 7	insert "which" between "evidence" and "is", and change "testable" to "tested"
Page 16	line 18	insert "the" between "of" and "reliability"
Page 17	line 17	change "and" to "affecting"
Page 17	line 25	change "public" to "power"
Page 34	line 16	add a dash between "jurisdiction" and "because"

FEDERAL POWER COMMISSION
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FEB 10 1975
DOCKET SECTION

Sincerely,

Olga Boikess

Olga Boikess

cc: All parties of record

OB:kfh

checked: August 5, 1974 ltd

2/19/75

Approved. Israel Convisser

Israel Convisser

FILED
OFFICE OF THE SECRETARY
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FEDERAL POWER COMMISSION

BEFORE THE
FEDERAL POWER COMMISSION

OFFICE OF ADMINISTRATIVE LAW JUDGES
AUG 9 2 17 PM '74
FEDERAL POWER COMMISSION

Connecticut Light and Power Company	)	Project Nos. 2576, 260 2632, and 2646

TRANSCRIPT CORRECTIONS PROPOSED BY
COMMISSION STAFF COUNSEL

(Volume No. 1, Pre-Hearing Conference,
July 25, 1974)

Page	Line	Correction
2	4	Change "Phillip" to "Philip"
2	6	Change "Hall" to "Hull"
2	7	Change "Marlett" to "Marlatt"
7	13	Change "Phillip" to "Philip"
7	17	Change "Marlett" to "Marlatt"
7	18	Change "Hall" to "Hull"
8	6	Change "Benedict" to "Benedikt"
8	18	Change "stand" to "stance"
25	21	Delete "and"
25	22	Change "everone" to "everyone"
26	19	Delete "may"
28	19	Change "they are" to "it is"
28	21	Change "they are" to "it is"
28	22	Change "they are" to "it is"
29	24	Insert "that" after "belief"
30	11	Delete "that construction"
31	7	Change "Bull" to "Bulls"
31	19	Insert "the" after "concerning"
36	22	Insert "that" after "realized"
36	22	Delete "forth"
36	23	Insert "that" after "clear"
36	24	Change "application" to "applications"
37	4	Change "has" to "have"
43	5	Delete "because"
43	6	Delete "that"
43	8	Delete the first "that"
44	17	Change "station's" to "station"

FEDERAL POWER COMMISSION
DOCKETED
FEB 19 1975
DOCKET SECTION

Page	Line	Correction
46	22	Delete "cooperation for"
50	9	Delete "and bookeeping"
50	10	Change "Commission's" to "Commission"
50	10	Delete "office"
50	11	Change "everthing" to "everything"
50	15	Change "Bureau of Registry or the Office of Registry" to "Section of Registry and Service"
50	21	Insert "that" after "point"
50	21	Change "Bureau" to "Department"
52	8	Change "to" to "for"

Respectfully submitted,

Philip R. Telleen

Philip R. Telleen
Commission Staff Counsel

Washington, D. C.

August 9, 1974

Approved.

2/19/75

Israel Convisser
Presiding Administrative Law Judge

DEC 30 2 32 PM '74

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL POWER COMMISSION

Connecticut Light and Power Company	)	Project Nos. 2576, 2604, 2632, and 2646

TRANSCRIPT CORRECTIONS PROPOSED BY COMMISSION STAFF
(Volume Nos. 2-5, Hearing Sessions, November 19-22, 1974)

Page	Line	Correction
A(of Vol.2)	25	strike "153" in "RECEIVED" column
59	19	change "and" to "where"
	20	change "are" to "is"
	25	delete "and"
60	11	delete "can"
	21	change "Tom" to "Taum"; insert "decision" before "and"; insert "that" before second "the"
61	4	change "Nantahal" to "Nantahala"
	5	change "Tom" to "Taum"
68	16	insert "being" before "Items"
127	19	change "ake" to "make"
162	14	insert "with" before second "the"
165	25	change "points" to "point"
167	11	insert quotation mark before "Exhibit"
170	13	delete second "an"
	24	delete "in"
171	7	change "it" to "there"

FEDERAL POWER COMMISSION SECRETARY'S OFFICE PUBLIC DOCUMENT SECTION

Page	Line	Correction
	22	change "project" to "projects"
	24	change "were" to "was"
172	6	delete "place"
190	3	change "Pennstock" to "penstock"
192	10	change "Stephenson" to "Stevenson"
194	1	change "Stephenson" to "Stevenson"
	20	delete "in interest"
	22	change "Stephenson" to "Stevenson"
195	11	insert "Day" before "of"
	22	change "fo" to "fourth
197	25	change "Stephenson" to "Stevenson"
198	10	change "plants" to "plant"; change "Stephenson" to "Stevenson"
	11	change "were" to "with
199	6	change "Stephenson" to "Stevenson"
	16	change "Stephenson" to "Stevenson"
	24	change "Stephenson" to "Stevenson"
200	5	change "Stephenson" to "Stevenson"
	8	change "Rock" to "Rocky"
201	10	change "propellors" to "impellers"
202	13	change "mump" to "pump
203	10	delete first "the"
208	24	change "storage" to "turbine"
215	6	insert "Q." before "Does"; insert "Project" before "take"
	18	insert "of" before "Rocky"
217	8	change "Stephenson" to "Stevenson"

Page	Line	Correction
224	4	delete "the"
	8	insert "a" before "way"
228	6	delete "Q."
230	8	change "damage" to "the damming"
231	1	delete "your"
233	1	change "started" to "start"
	19	change "loer" to "lower"
257	14	change "Film" to "Slides"
261	16	insert "cannot" after "I"
	25	insert "a photo showing" before "the"
262	1	insert "Company's Rocky River Project after "Power"
263	6	change "This" to "There"
265	6	insert "below Stevenson" after "station"
	7	change "sounding" t "sending"; change "another" to "of the"
	8	change "plant" to "location"
268	13	change "film" to "slides"
314	1	insert "of" before "your"
	14	change "his" to "Mr. Knickerbocker
315	7	change "rewinding" to "rewiring"
	11	it is suggested th "rewinding" be changed to "rewiring"

Page	Line	Correction
	12	it is suggested that "rewinding" be changed to "rewiring"
335	16	delete "or"
	17	change "not" to "under Section 23(b) of the Federal Power Act"
	25	delete "plant"
338	1	change "Rier" to "River"
	14	change "pol" to "pool"
340	15	insert "the" before "Housatonic"
366	22	change "my colleague" to "Mr. Kosloff"
380	3	change "of" to "or"
	18	change "reefer" to "river"
386	11	change "1950" to "1850"
394	24	change "composite of your" to "prepared"
395	21	change "Do" to "Did"
	23	change "Do" to "Did"
399	6	change "assistants" to "assistance"
401	9	delete "producer"
410	8	change "thing" to "think"
467	23	change "motion" to "motions"; change "is" to "are"
468	8	delete first "the"
469	2	insert "the" before "hearsay"
470	4	change "directed" to "direct"
	24	it is suggested that "47" be changed to "46"
473	12	change "same objection" to "the other objections"
475	17	insert "to" before "receive"
480	16	change "know" to "known"
481	2	change "getting" to

Page	Line	Correction
	9	delete second "at"
484	21	change "som" to "some"
485	6	delete "I am saying that"
	10	insert "an" before "aid"
A(of Vol.5)	10	change "Rate" to "Rating"; insert "Mile before "19.2"
	13	change "1974" to "197
	23	delete "8"
B(of Vol.5)	15	change "South" to "Sound"
491	13	delete "8"
492	11	change "would be" to "is"
494	11	change "Little" to "little"
497	14	change "M" to "M-1 and M-2"
499	3	change "233" to "2.3"
524	9	change "was" to "is"
526	13	change "1974" to "197
	14	change "direct" to "direction?"
	15	delete "examination?"
532	16	change "Mile" to "mouth"
543	5	change "Captain Wolfe" to "Candlewood"
548	14	change "drawndown" to "drawdown"
	21	change "for" to "in"; change second "30" to "830"
552	5	change "or" to "for"; change "cf" to "cfs"
	22	insert "itself" before "discharge"
	23	insert "into" before "it"; delete "by itself"
554	23	change "discharge" to "storage"
	24	insert "in" before "about"

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Page	Line	Correction
555	2	change "tem" to "them"
	12	change "58" to "18"
	21	insert "Lake" before "Housatonic"
558	4	change "a" to "the"
562	19	delete second "boats"
563	12	insert "the" before "generating"
	13	insert "(Derby)" after "Shelton"
	16	insert "total" after "kilowatts"
	21	insert "(Derby)" before "Dam"
567	10	change "low" to "full"
579	15	it is suggested that "Andrew Scoggin" be changed to "Androscoggin"
607	21	change "not" to "note"

Respectfully submitted,

Philip R. Telleen

Philip R. Telleen
Commission Staff Counsel

Washington, D.C.
December 30, 1974

Approved.

Israel Convisser 2/11/75

Israel Convisser
Presiding Administrative Law Judge

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL POWER COMMISSION

Connecticut Light and Power Company	)	Project Nos. 2576, 2604, 2632, & 2646

TRANSCRIPT CORRECTIONS
PROPOSED BY COMMISSION STAFF
(Vol. No. 6, Hearing Session, January 7, 1975)

Page	Line	Correction
A	13	insert "Photocopied pages of" before "A Book"
	15	insert "County" after "Berkshire"
	16	change "Dudley" to "David"
	21	change "1973" to "1793" and "1976" to "1796"
B	9	change "733" to "732" in both columns
	15	insert "Photocopied pages of" before "Dictionary"; insert "and Cyclopaedia of American Biography" after "Biography"
	17	insert "Photocopied pages of" before "Connecticut"
	18	insert "Photocopied pages of" before "Historical"

FEDERAL POWER COMMISSION
DOCKETED
FEB 1 0 1975
DOCKET SECTION

Page	Line	Correction
	21	insert "Photocopied pages of" before "The Public"
	24	insert "Photocopied pages of" before "Travels"
C	2	insert "Photocopied pages of" before "History"
696	18	change "Teleen" to "Telleen"
696	21	change "TELEEN" to "TELLEEN" (this correction and the one immediately preceding point out an error which appears frequently between pages 695 and 791 of the record)
697	5	change "appropriate" to "appropriately"
	9	insert "from" before "as far"
699	1	change "testimony" to "report"
	2	change "went through" to "there follows"
	23	insert "Point A to" before "Point B"

Project Nos. 2576, 2604, 2632, & 2646 - 3 -

Page	Line	Correction
702	1	change "damage" to "pondage"
703	~~11~~ 10	change "Reverend's" to "Reverend Starr's"
710	14	change "supplying" to "obtaining"
713	16	insert "the" before "rebuttal"
724	25	change "which" to "they"
725	12	insert "County" after "Berkshire"
727	3	change "they" to "publicatio dates"
728	11	change "1976" to "1796"
729	1	insert "Smith" after "Powers"
	25	delete "as"
730	12	change "CDHQ8" to "CDH-8"
	15	change "direct" to "direction?"
	16	delete "examination?"

Page	Line	Correction
	18	change "at" to "to the"
	25	it is suggested that "AND RECEIVED IN EVIDENCE" be inserted after "IDENTIFICATION
731	19	change "Book, 'Holding" to "book holding"
733	23	change 'pages" to "page"
736	19	change "26,000" to "126,000"
	21	insert "the" before "towns"
737	13	insert "it" after "newspaper"
	16	change "aim" to "age"
738	5	change "on" to "or"
739	9	insert "it" before "be"
753	24	change "and" to "when"
759	3	change "here" to "her"
	13	change "term" to "materials"
	25	change "has" to "had"
760	5	change "has" to "had"
763	17	insert "Connecticut" after "Cornwall,"

Page	Line	Correction
770	3	change "reference" to "preference"
773	6	change "precluded " to "preclude"
	21	insert "(impediments)" after "impedances"
780	4	change "cable" to "table"
	18	insert "A." before "Not"
781	7	insert "a" before "simplified"
784	16	change "long" to "a"

Respectfully submitted,

Philip R. Telleen
Commission Staff Counsel

Washington, D.C.
January 27, 1975

Approved as corrected. Page 703, line 10.

2/19/75

Israel Convisser
Presiding Administrative Law Judge

Findings of the Commission

Electric Power, Inc.

Docket No. E-6437

On June 2, 1952, Electric Power, Inc., of Berlin, Conn., filed a declaration of intention under section 23 (b) of the Federal Power Act to construct on privately-owned lands a dam and powerhouse on the Housatonic River approximately 30 miles above its mouth and about 17 miles upstream from the cities of Derby and Shelton, Conn., in the town of Newton, Fairfield County, and the town of Southbury, New Haven, Conn., to be known as the Shepaug project.

The Housatonic River rises near Washington station, town of Washington, Mass., flows northward through Hinsdale to Dalton, thence southwest to Pittsfield in western Massachusetts, and thence in a general southerly direction about 132 miles across the States of Massachusetts and Connecticut to its mouth in Long Island Sound at Stratford 5 miles east of Bridgeport, Conn. The drainage area comprises 1,948 square miles, of which 498.4 lie in western Massachusetts, 215.4 in eastern New York, and 1,234.2 in western Connecticut.

According to the declaration of intention, the proposed project will consist of a gravity type concrete dam 1,412 feet long with maximum height of 139 feet; a reservoir having an area of 1,870 acres with normal usable volume of 5,038 acre-feet and normal drawdown of 3 feet; a powerhouse containing one vertical shaft, Kaplan adjustable blade, propeller type turbine having a rated capacity of 57,000 horsepower—the rated capacity of the generator being 37,250 kilowatts.

The Commission *finds:*

(1) The construction and operation of the proposed Shepaug development will not affect any public lands or reservations of the United States.

(2) The interests of interstate or foreign commerce would not be affected by the construction and operation of the proposed Shepaug development: *Provided, however,* That these findings shall not be construed as relating to any effects upon the interests of interstate or foreign commerce which might be caused by any existing hydroelectric developments located on the Housatonic River.

Adopted: December 22, 1952. Issued: December 24, 1952.

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

THE CONNECTICUT LIGHT AND POWER COMPANY, Petitioner	:	
v.	:	No. 76-4212
FEDERAL POWER COMMISSION, Respondent	:	

PETITION FOR REVIEW OF AN ORDER
OF THE FEDERAL POWER COMMISSION

Pursuant to Section 313 of the Federal Power Act [16 U.S.C. § 825(l)] and Rule 15 of the the Federal Rules of Appellate Procedure, The Connecticut Light and Power Company, a public utility corporation, specially chartered and existing under the laws of the State of Connecticut, hereby petitions the Court to review and set aside in entirety the Order of the Federal Power Commission issued on May 24, 1976 and supplemented, pursuant to a Petition for Rehearing, by an Order issued on July 23, 1976 in the Connecticut Light and Power Company proceeding, Federal Power Commission Project Nos. 2576, 2605, 2632 and 2646.

Dated: September 16, 1976.

Respectfully submitted,

THE CONNECTICUT LIGHT AND POWER COMPANY
Petitioner

By _____

James R. McIntosh
Day, Berry & Howard
One Constitution Plaza
Hartford, Connecticut 06103

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing Petition For Review on all parties to the proceeding before the Federal Power Commission in which the Order to be reviewed was entered by duly mailing copies thereof to the following this 16th day of September, 1976.

Kenneth F. Plumb
Secretary
Federal Power Commission
825 No. Capitol St., N.E.
Washington, D. C. 20426

Frederick Benedikt
Executive Secretary
Candlewood Lake Defense Associates
R. D. No. 1, Rte. 39
New Fairfield, Connecticut 06810

Olga Boikess
Galland, Kharasch, Calkins & Brown
1054 31st St., N.W.
Washington, D. C. 20007

Commissioner of Environmental Protection
State Office Building
Hartford, Connecticut 061105

Mary H. Gaudet, Chairman
Lake Lillinonah Authority
Whippoorwill Hill
Newtown, Connecticut 06470

Robert S. Golden, Jr., Esq.
Assistant Attorney General
State of Connecticut
c/o Public Utilities Control Authority
State Office Building
Hartford, Connecticut 06115

Chairman
Public Utilities Control Authority
State Office Building
Hartford, Connecticut 06115

Joyce K. Hornbecker, Chairman
Lake Zoar Authority
P. O. Box 427
Southbury, Connecticut 06488

David M. Lane, Jr.
Candlewood Lake Authority
P. O. Box 173
Sherman, Connecticut 06784

William H. Raacke, First Selectman
Town of New Fairfield, Town Hall
P. O. Box 108
New Fairfield, Connecticut 06810

James R. McIntosh